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=> FIL REG
FILE 'REGISTRY' ENTERED AT 14:29:13 ON 31 AUG 2011
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=> D L39 QUE
L6            88 SEA FILE=HCA SPE=ON  ABB=ON  PLU=ON  ("BUCK, MANFRED"/AU OR
                 "CYGANIK, PIOTR"/AU)
L7          3320 SEA FILE=HCA SPE=ON  ABB=ON  PLU=ON  "THE UNIVERSITY COURT OF
                 THE UNIVERSITY OF ST ANDREWS"+ALL/CO,CS,PA
L10              QUE  SPE=ON  ABB=ON  PLU=ON  SAM OR SELF (5A) ASSEMB? (5A
                 ) (MONOLAY? OR MONO (2A) LAY?)
L32             6 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  (392702-54-4 OR
                 330442-96-1 OR 317834-22-3 OR 298704-27-5 OR 298-25-3 OR
                 298704-23-1 OR 298704-21-9)
L33            37 SEA FILE=HCA SPE=ON  ABB=ON  PLU=ON  L32
L34            37 SEA FILE=HCA SPE=ON  ABB=ON  PLU=ON  L10 AND L33
L35            19 SEA FILE=HCA SPE=ON  ABB=ON  PLU=ON  L34 AND (L6 OR L7)
L36            18 SEA FILE=HCA SPE=ON  ABB=ON  PLU=ON  L34 NOT L35
L37            14 SEA FILE=HCA SPE=ON  ABB=ON  PLU=ON  1802-2006/PY,PRY,AY AND
                 L36
L38            33 SEA FILE=HCA SPE=ON  ABB=ON  PLU=ON  L35 OR L37
L39            33 DUP IDE L38 (INCLUDES 0 SETS OF DUPLICATES)



=> FIL HCA
FILE 'HCA' ENTERED AT 14:29:22 ON 31 AUG 2011
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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=> D L35 1-19 IBIB ABS HITSTR HITIND RETABLE

L35  ANSWER 1 OF 19  HCA  COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER:        154:370406  HCA  Full-text
TITLE:                   A Supramolecular Network as Sacrificial Mask for the
                         Generation of a Nanopatterned Binary Self-
                         Assembled Monolayer
AUTHOR(S):               Silien, Christophe; Raeisaenen, Minna T.; Buck,
                         Manfred
CORPORATE SOURCE:        EaStCHEM School of Chemistry, University of St
                         Andrews, North Haugh, KY16 9ST, UK
SOURCE:                  Small (2010), 6(3), 391-394
                         CODEN: SMALBC; ISSN: 1613-6810
PUBLISHER:               Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE:           Journal
LANGUAGE:                English
AB    The feasibility of the scheme for ω-(4'-methylbiphenyl-4- yl)ethanethiol (BP2)
      and adamantanethiol (AdSH) was explored.  It was found that BP2 packing is
      indeed lower in the network pores compared to uniform self-assembled
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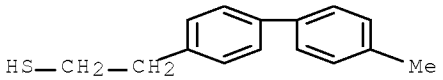
monolayers (SAMs). In addition, AdSH has indeed been inserted and that the new mols. are attached directly to the Au substrate. Moreover, AdSH was observed to be important to ensure lateral stability of the BP2/Cu nanoislands. It can be stated that the strategy presented allows the preparation of binary SAMs carrying an extended pattern with unprecedented resolution

IT 317834-22-3D, ω-(4'-Methylbiphenyl-4-yl)ethanethiol, bound to copper
(supramol. network as sacrificial mask for generation of nanopatterned binary self-assembled monolayer)

RN 317834-22-3 HCA

CN [1,1'-Biphenyl]-4-ethanethiol, 4'-methyl- (CA INDEX NAME)



CC 66-4 (Surface Chemistry and Colloids)

IT Diffusion
(lateral; supramol. network as sacrificial mask for generation of nanopatterned binary self-assembled monolayer)

IT Adsorption energy
Potential energy
Self-assembled monolayers
Supramolecular structure
Technological patterning
Templates
Underpotential deposition
(supramol. network as sacrificial mask for generation of nanopatterned binary self-assembled monolayer)

IT 34301-54-7D, 1-Mercaptoadamantane, bound to copper 317834-22-3D, ω-(4'-Methylbiphenyl-4-yl)ethanethiol, bound to copper
(supramol. network as sacrificial mask for generation of nanopatterned binary self-assembled monolayer)

IT 7440-50-8D, Copper, thiolated
(supramol. network as sacrificial mask for generation of nanopatterned binary self-assembled monolayer)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Azzaroni, O	2003	107	13446	J Phys Chem B	HCA
Bain, C	1989	111	321	J Am Chem Soc	HCA
Baralia, G	2005	21	6825	Langmuir	HCA
Barth, J	2007	58	375	Annu Rev Phys Chem	HCA
Barth, J	2005	437	671	Nature	HCA
Blunt, M	2008		2304	Chem Commun	HCA
Bonifazi, D	2007	17	1051	Adv Funct Mater	HCA
Bumm, L	1996	271	1705	Science	HCA
Collard, D	1991	7	1192	Langmuir	HCA
Cygan, M	1998	120	2721	J Am Chem Soc	HCA
Cyganik, P	2004	126	5960	J Am Chem Soc	HCA
Cyganik, P	2007	111	16909	J Phys Chem C	HCA
Dameron, A	2005	127	8697	J Am Chem Soc	HCA
Dameron, A	2007	111	6747	J Phys Chem C	HCA

Decker, R	2008	93	243102	Appl Phys Lett	
Felgenhauer, T	2003	550	309	J Electroanal Chem	
Ginger, D	2003	116	30	Angew Chem	
Ginger, D	2003	43	30	Angew Chem Int Ed	HCA
Golzhauser, A	2001	13	806	Adv Mater	HCA
Imabayashi, S	1997	428	33	J Electroanal Chem	HCA
Jennings, G	1997	119	5208	J Am Chem Soc	HCA
Kim, Y	2005	249	7	Appl Surf Sci	HCA
Kudernac, T	2009	38	402	Chem Soc Rev	HCA
Lin, P	1999	15	6825	Langmuir	HCA
Liu, M	2008	59	367	Ann Rev Phys Chem	HCA
Love, J	2005	105	1103	Chem Rev	HCA
Madueno, R	2008	454	618	Nature	HCA
Mena-Osteritz, E	2006	18	447	Adv Mater	HCA
Oyamatsu, D	1999	473	59	J Electroanal Chem	HCA
Oyamatsu, D	2001	497	97	J Electroanal Chem	HCA
Pace, G	2008	120	2518	Angew Chem	
Pace, G	2008	47	2484	Angew Chem Int Ed	HCA
Perdigao, L	2009	25	2278	Langmuir	HCA
Piot, L	2009	131	12864	J Am Chem Soc	HCA
Saavedra, H	2007	129	10741	J Am Chem Soc	HCA
Schreiber, F	2004	16	R881	J Phys -Condens Mat	HCA
Silien, C	2009	121	3399	Angew Chem	
Silien, C	2009	48	3349	Angew Chem Int Ed	HCA
Silien, C	2007	111	6357	J Phys Chem C	HCA
Silien, C	2008	112	3881	J Phys Chem C	HCA
Stepanow, S	2006		2153	Chem Commun	HCA
Stepanow, S	2004	3	229	Nat Mater	HCA
Stohr, M	2007	3	1336	Small	HCA
Theobald, J	2003	424	1029	Nature	HCA
Thom, I	2005	581	33	Surf Sci	HCA
Widrig, C	1991	310	335	J Electroanal Chem	HCA
Yang, D	1997	13	243	Langmuir	HCA

OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)

L35 ANSWER 2 OF 19 HCA COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 154:269494 HCA Full-text
TITLE: Patterning of self-assembled monolayers based on differences in molecular conductance
AUTHOR(S): Shen, Cai; Buck, Manfred
CORPORATE SOURCE: EaStCHEM School of Chemistry, University of St Andrews, St Andrews, KY16 9ST, UK
SOURCE: Nanotechnology (2009), 20(24), 245306/1-245306/6
CODEN: NNOTER; ISSN: 1361-6528
URL: http://www.iop.org/EJ/journal/Nano
PUBLISHER: Institute of Physics Publishing
DOCUMENT TYPE: Journal; (online computer file)
LANGUAGE: English

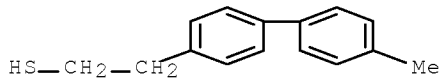
AB Scanning tunneling microscopy (STM) is used for replacement patterning of self-assembled monolayers (SAMs) of thiols on a sub-10 nm scale. Contrasting other schemes of scanning probe patterning of SAMs, the exchange of mols. relies on differences in conductance and, thus, occurs under tunneling conditions where the resolution of the tip is maintained. Exchange takes place at the boundary between different thiols but only when the tip moves from areas of lower to higher conductance. In combination with SAMs which exhibit excellent structural quality, patterns with a contour definition of ±1 mol., lines as thin as 2.5 nm and islands with an area of less than 20 nm2 are straightforwardly produced. It is suggested that the shear force exerted onto

the mols. with the lower conductance triggers displacement of the one with higher conductance.

IT 317834-22-3
(patterning of self-assembled monolayers based on differences in mol. conductance)

RN 317834-22-3 HCA

CN [1,1'-Biphenyl]-4-ethanethiol, 4'-methyl- (CA INDEX NAME)



CC 66-4 (Surface Chemistry and Colloids)

ST mol conductance self assembled monolayer patterning method

IT Electric conductivity
Scanning tunneling microscopy
Self-assembled monolayers
Shear
Surface defects
Technological patterning
(patterning of self-assembled monolayers based on differences in mol. conductance)

IT 1322-36-7, Dodecanethiol 2885-00-9, Octadecane thiol 317834-22-3
(patterning of self-assembled monolayers based on differences in mol. conductance)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Azzam, W	2003	19	8262	Langmuir	HCA
Bullen, D	2004	84	789	Appl Phys Lett	HCA
Cyganik, P	2004	126	5960	J Am Chem Soc	HCA
Cyganik, P	2006	128	13868	J Am Chem Soc	HCA
Cyganik, P	2004	108	4989	J Phys Chem B	HCA
Cyganik, P	2005	109	10902	J Phys Chem B	HCA
Cyganik, P	2007	111	16909	J Phys Chem C	HCA
Delamarche, E	1997	10	9263	J Phys Chem B	
Ginger, D	2004	43	30	Angew Chem Int Edn	
Golzhauser, A	2001	13	806	Adv Mater	HCA
Gorman, C	2000	16	6312	Langmuir	HCA
Hla, S	2000	85	2777	Phys Rev Lett	HCA
Jang, J	2008	8	1451	Nano Lett	HCA
Keel, J	2002	116	7151	J Chem Phys	HCA
Kim, J	2003	42	4770	Japan J Appl Phys 1	HCA
Kim, Y	1992	8	1096	Langmuir	HCA
Kramer, S	2003	103	4367	Chem Rev	
Leggett, G	2006	35	1150	Chem Soc Rev	HCA
Liang, J	2007	111	17275	J Phys Chem C	HCA
Liu, G	2000	33	457	Acc Chem Res	HCA
Liu, J	2004	84	1359	Appl Phys Lett	HCA
Liu, M	2008	59	367	Annu Rev Phys Chem	HCA
Love, J	2005	105	1103	Chem Rev	HCA
Marrian, C	1994	64	390	Appl Phys Lett	HCA
Mirkin, C	2007	1	79	ACS Nano	HCA
Mizutani, W	1998	14	7197	Langmuir	HCA
Osada, T	2008	112	3835	J Phys Chem C	HCA

Perkins, F	1996	68	550	Appl Phys Lett	HCA
Rong, H	2001	17	1582	Langmuir	HCA
Salaita, K	2006	45	7220	Angew Chem Int Edn	HCA
Salaita, K	2007	2	145	Nat Nanotechnol	HCA
Schoer, J	1996	100	11086	J Phys Chem	HCA
Schoer, J	1994	10	615	Langmuir	HCA
Schoer, J	1997	13	2323	Langmuir	HCA
Schulze, G	2008	10	065005	New J Phys	
Silien, C	2008	112	3881	J Phys Chem C	HCA
Smith, R	2004	75	1	Prog Surf Sci	HCA
Sondag-Huethorst, J	1994	64	285	Appl Phys Lett	HCA
Su, G	2007	8	1037	ChemPhysChem	HCA
Tan, Y	2008	2	2374	ACS Nano	HCA
Turchanin, A	2007	3	2114	Small	HCA
Williams, J	2007	23	3103	Langmuir	HCA
Xu, S	1998	120	9356	J Am Chem Soc	HCA
Yu, J	2006	128	11574	J Am Chem Soc	HCA
Zhao, J	2001	17	7784	Langmuir	HCA

L35 ANSWER 3 OF 19 HCA COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER: 152:601759 HCA Full-text

TITLE: Relative stability of thiol and selenol based SAMs on Au(111) - exchange experiments

AUTHOR(S): Szelagowska-Kunstman, Katarzyna; Cyganik, Piotr; Schuepbach, Bjoern; Terfort, Andreas

CORPORATE SOURCE: Department of Physics of Nanostructures and Nanotechnology, Smoluchowski Institute of Physics, Jagiellonian University, Krakow, 30-059, Pol.

SOURCE: Physical Chemistry Chemical Physics (2010), 12(17), 4400-4406
CODEN: PPCPFQ; ISSN: 1463-9076

PUBLISHER: Royal Society of Chemistry

DOCUMENT TYPE: Journal

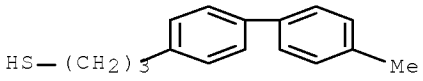
LANGUAGE: English

AB Two fully analog homolog series of thiol and selenol based aromatic self-assembled monolayers (SAMs) on Au(111) as Me(C6H4)2(CH2)n-S-Au(111) (BPnS/Au(111), n = 2-6) and Me(C6H4)2(CH2)n-Se-Au(111) (BPnSe/Au(111), n = 2-6), resp., were used to elucidate the relative stability of the S-Au(111) and Se-Au(111) bonding by monitoring their exchange by alkanethiol and alkaneselenol mols. from their resp. solns. The exchange process was monitored using IR reflection absorption spectroscopy (IRRAS). Two main results obtained by these study are: (1) the selenium-based BPnSe/Au(111) series is significantly more stable than their sulfur analogs; (2) a clear odd-even effect exists for the stability of both BPnS/Au(111) and BPnSe/Au(111) SAMs towards exchange processes with the even-numbered systems being less stable. The results obtained are discussed in view of previously reported microscopic and spectroscopic data of the same SAMs addressing the issue of the relative stability of S-Au(111) and Se-Au(111) bonding, which is an important factor for the rational design of SAMs.

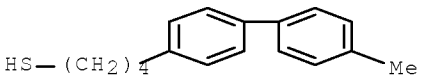
IT 298704-21-9 298704-23-1 298704-27-5
317834-22-3
(relative stability of thiol and selenol based SAMs on Au(111) - exchange expts.)

RN 298704-21-9 HCA

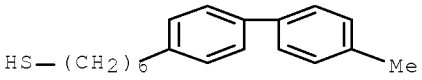
CN [1,1'-Biphenyl]-4-propanethiol, 4'-methyl- (CA INDEX NAME)



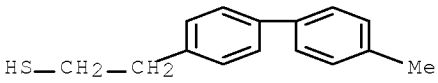
RN 298704-23-1 HCA
CN [1,1'-Biphenyl]-4-butanethiol, 4'-methyl- (CA INDEX NAME)



RN 298704-27-5 HCA
CN [1,1'-Biphenyl]-4-hexanethiol, 4'-methyl- (CA INDEX NAME)



RN 317834-22-3 HCA
CN [1,1'-Biphenyl]-4-ethanethiol, 4'-methyl- (CA INDEX NAME)



CC 66-4 (Surface Chemistry and Colloids)
ST thiol selenol exchange self assembled monolayer gold
IT Homologous series
IR spectra
Self-assembled monolayers
Stability
(relative stability of thiol and selenol based SAMs on Au(111) - exchange expts.)
IT Selenols
Thiols
(relative stability of thiol and selenol based SAMs on Au(111) - exchange expts.)
IT 7440-57-5, Gold, uses
((111) substrate; relative stability of thiol and selenol based SAMs on Au(111) - exchange expts.)
IT 2917-26-2, 1-Hexadecanethiol 298704-21-9 298704-23-1 298704-25-3 298704-27-5 317834-22-3 362060-93-3, 1-Hexadecaneselenol 919488-48-5 919488-49-6 919488-50-9 919488-51-0 919488-52-1
(relative stability of thiol and selenol based SAMs on Au(111) - exchange expts.)
RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File

Azzam, W	2003	19	4958	Langmuir	HCA
Azzam, W	2003	19	8262	Langmuir	HCA
Bashir, A	2008	47	5250	Angew Chem, Int Ed	HCA
Beebe, J	2008	2	827	ACS Nano	HCA
Beebe, J	2007	90	083117	Appl Phys Lett	
Crivillers, N	2008	130	5499	J Am Chem Soc	HCA
Cyganik, P	2004	126	5960	J Am Chem Soc	HCA
Cyganik, P	2006	128	13868	J Am Chem Soc	HCA
Cyganik, P	2004	108	4989	J Phys Chem B	HCA
Cyganik, P	2005	109	10902	J Phys Chem B	HCA
Cyganik, P	2007	111	16909	J Phys Chem C	HCA
Cyganik, P	2008	112	15466	J Phys Chem C	HCA
Cyganik, P	2002			PhD Thesis, Jagiello	
Di, M	2001	65	045402	Phys Rev B: Condens	
Duan, L	2001	105	9812	J Phys Chem B	HCA
Felgenhauer, T	2003	550-5	309	J Electroanal Chem	HCA
Ferri, V	2008	47	3407	Angew Chem, Int Ed	HCA
Galperin, M	2008	319	1056	Science	HCA
Heimel, G	2008	41	721	Acc Chem Res	HCA
Heimel, G	2007	7	932	Nano Lett	HCA
Heurich, J	2002	88	256803	Phys Rev Lett	MEDLINE
Hong, J	2008	92	143311	Appl Phys Lett	
Huang, F	1998	14	4802	Langmuir	HCA
Ie, Y	2009	11	4949	Phys Chem Chem Phys	HCA
Kafer, D	2006	128	1723	J Am Chem Soc	
Kafer, D	2007	111	10546	J Phys Chem C	
Kang, J	2001	17	95	Langmuir	HCA
Kromemeijer, A	2008	20	1467	Adv Mater	
Leung, T	2000	458	34	Surf Sci	HCA
Love, J	2005	105	1103	Chem Rev	HCA
Muller, J	2006	359	4821	Inorg Chim Acta	
Reek, M	2001	78	3735	Appl Phys Lett	
Reichert, J	2002	88	17684	Phys Rev Lett	
Rong, H	2001	17	1582	Langmuir	HCA
Sato, Y	2004	6	1328	Phys Chem Chem Phys	HCA
Seo, K	2008	130	2553	J Am Chem Soc	HCA
Shaporenko, A	2007	129	2232	J Am Chem Soc	HCA
Shaporenko, A	2005	109	13630	J Phys Chem B	HCA
Sushko, M	2009	21	1111	Adv Mater	HCA
Thom, I	2005	581	33	Surf Sci	HCA
Wang, C	2007	76	205320	Mater Mater Phys	
Wang, G	2007	76	205320	Matter Mater Phys	
Weidner, T	2007	111	11627	J Phys Chem C	HCA
Weidner, T	2008	112	12495	J Phys Chem C	HCA
Weiss, E	2007	129	4336	J Am Chem Soc	HCA
Yaliraki, S	1999	121	3428	J Am Chem Soc	HCA
Yang, G	2003	107	8746	J Phys Chem B	HCA
Yee, C	2003	19	9450	Langmuir	HCA
Yokota, K	2007	129	5818	J Am Chem Soc	HCA

OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)

L35 ANSWER 4 OF 19 HCA COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 151:87435 HCA Full-text
TITLE: A Supramolecular Hydrogen-Bonded Network as a Diffusion Barrier for Metal Adatoms
AUTHOR(S): Silien, Christophe; Raeisaenen, Minna T.; Buck, Manfred
CORPORATE SOURCE: EaStCHEM School of Chemistry, University of St Andrews, North Haugh, UK

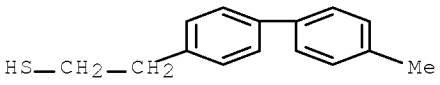
SOURCE: Angewandte Chemie, International Edition (2009), 48(18), 3349-3352
CODEN: ACIEF5; ISSN: 1433-7851
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A supramol. network changes the mechanism by which underpotential deposition (UPD) of copper proceeds on a gold electrode modified by a self-assembled monolayer (SAM). Lateral diffusion of Cu adatoms is suppressed between adjacent cells of a network/SAM hybrid structure. Instead, UPD occurs by direct deposition into the SAM filled pores of the network, where the Cu adatoms are confined.

IT 317834-22-3D, gold bound
(supramol. hydrogen-bonded network as diffusion barrier for metal adatom)

RN 317834-22-3 HCA

CN [1,1'-Biphenyl]-4-ethanethiol, 4'-methyl- (CA INDEX NAME)



CC 66-4 (Surface Chemistry and Colloids)

IT 81-33-4, PTCDI 108-78-1, Melamine, processes 7440-57-5D, Gold, thiolated 317834-22-3D, gold bound
(supramol. hydrogen-bonded network as diffusion barrier for metal adatom)

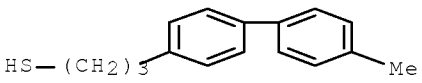
RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Barth, J	2007	58	375	Annu Rev Phys Chem	HCA
Blunt, M	2008		2304	Chem Commun	HCA
Bonifazi, D	2007	17	1051	Adv Funct Mater	HCA
Cyganik, P	2007	111	16909	J Phys Chem C	HCA
de Feyter, S	2003	32	139	Chem Soc Rev	HCA
Edinger, K	1993	9	4	Langmuir	HCA
Love, J	2005	105	1103	Chem Rev	HCA
Madueno, R	2008	454	618	Nature	HCA
McDermott, C	1995	99	13257	J Phys Chem	HCA
Oyamatsu, D	2001	497	97	J Electroanal Chem	HCA
Rong, H	2001	17	1582	Langmuir	HCA
Schneeweiss, M	1999	173	51	Phys Status Solidi A	HCA
Schreiber, F	2004	16	R881	J Phys Condens Matte	HCA
Silien, C	2008	112	3881	J Phys Chem C	HCA
Stohr, M	2007	3	1336	Small	HCA
Theobald, J	2003	424	1029	Nature	HCA

OS.CITING REF COUNT: 8 THERE ARE 8 CAPLUS RECORDS THAT CITE THIS RECORD (8 CITINGS)

L35 ANSWER 5 OF 19 HCA COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 150:153208 HCA Full-text
TITLE: Self-Assembly of a Pyridine-Terminated Thiol Monolayer on Au(111)
AUTHOR(S): Silien, Christophe; Buck, Manfred; Goretzki, Gudrun; Lahaye, Dorothee; Champness, Neil R.; Weidner,

Tobias; Zharnikov, Michael
CORPORATE SOURCE: EaStChem School of Chemistry, University of St. Andrews, St. Andrews, KY16 9ST, UK
SOURCE: Langmuir (2009), 25(2), 959-967
CODEN: LANGD5; ISSN: 0743-7463
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 150:153208
AB Self-assembled monolayers (SAMs) of 3-(4-pyridine-4-yl-phenyl)-propane-1-thiol (PyP3) on Au(111)/mica were studied by scanning tunneling microscopy (STM), polarization-modulated IR reflection absorption spectroscopy (PM-IRRAS), high-resolution x-ray photoemission spectroscopy (HRXPS), and near-edge x-ray absorption fine structure (NEXAFS) spectroscopy. The quality of the SAM is strongly dependent on the solvent. Substantial gold corrosion is observed if pure ethanol is used. But highly ordered and densely packed SAMs are formed from acetonitrile or a KOH/ethanol mixture The structure is described by a $2\sqrt{3} + \sqrt{3}$ unit cell with the aromatic moiety oriented nearly perpendicular to the surface. The PyP3 films form with the pyridine moiety deprotonated. Variation of pH allows reversible protonation without measurable damage of the SAM.
IT 298704-21-9
(self-assembly of pyridine-terminated thiol monolayer on Au(111))
RN 298704-21-9 HCA
CN [1,1'-Biphenyl]-4-propanethiol, 4'-methyl- (CA INDEX NAME)



CC 66-4 (Surface Chemistry and Colloids)
ST self assembled monolayer pyridine terminated thiol gold surface
IT Binding energy
Corrosion
Molecular orientation
Protonation
Self-assembled monolayers
Solvents
Surface structure
pH
(self-assembly of pyridine-terminated thiol monolayer on Au(111))
IT 7440-57-5, Gold, uses
((111) surface; self-assembly of pyridine-terminated thiol monolayer on Au(111))
IT 298704-21-9
(self-assembly of pyridine-terminated thiol monolayer on Au(111))
IT 1005761-07-8, [1,1'-Biphenyl]-4-propanethiol
(self-assembly of pyridine-terminated thiol monolayer on Au(111))
IT 1101927-57-4P
(self-assembly of pyridine-terminated thiol monolayer on Au(111))

IT 181219-01-2
(self-assembly of pyridine-terminated thiol monolayer on Au(111))
IT 39795-60-3P 1101927-55-2P 1101927-56-3P
(self-assembly of pyridine-terminated thiol monolayer on Au(111))
RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Ahn, H	2006	428	283	Chem Phys Lett	HCA
Anon	2001			Surface chemical ana	
Azzam, W	2002	18	7766	Langmuir	HCA
Azzam, W	2003	19	8262	Langmuir	HCA
Baldwin, J	1996	12	6389	Langmuir	HCA
Balevicius, V	2007	9	3181	Phys Chem Chem Phys	HCA
Ballav, N	2007	129	15416	J Am Chem Soc	HCA
Barriet, D	2007	23	8866	Langmuir	HCA
Baunach, T	2004	16	2024	Adv Mater	HCA
Boyen, H	2006	5	394	Nat Mater	HCA
Bryant, M	1993	9	385	Langmuir	HCA
Cabarcos, O	2008	112	10842	J Phys Chem C	HCA
Cyganik, P	2004	108	4989	J Phys Chem B	HCA
Cyganik, P	2005	109	10902	J Phys Chem B	HCA
Cyganik, P	2005	109	10902	J Phys Chem B	HCA
Cyganik, P	2007	111	16909	J Phys Chem C	HCA
Cyganik, P	2007	111	16909	J Phys Chem C	HCA
D R, L	2005			86th ed	
Diemer, V	2005	46	4737	Tetrahedron Lett	HCA
Ducker, R	2006	128	392	J Am Chem Soc	HCA
Frey, S	2001	17	2408	Langmuir	HCA
Fuxen, C	2001	17	3689	Langmuir	HCA
Heister, K	2001	105	4058	J Phys Chem B	HCA
Heister, K	2001	105	6888	J Phys Chem B	HCA
Hitchcock, A	1987	91	531	J Phys Chem	HCA
Hu, J	2002	58	2827	Spectrochim Acta, Pa	
Iglesias, B	2001	57	3125	Tetrahedron	HCA
Jung, S	1997	407	139	J Mol Struct	
Kosbar, L	2006	22	7631	Langmuir	HCA
Laibinis, P	1991	113	7152	J Am Chem Soc	HCA
Lamont, C	1999	15	2037	Langmuir	HCA
Lin-Vien, D	1991			Handbook of IR and R	
Manolova, M	2005	590	146	Surf Sci	HCA
Moulder, J	1992			Handbook of X-ray Ph	
Murty, K	1998	14	5446	Langmuir	HCA
Ozoemena, K	2006	51	2669	Electrochim Acta	HCA
Petrovykh, D	2006	128	2	J Am Chem Soc	HCA
Raisanen, M	2007	46	3251	Inorg Chem	
Rong, H	2001	17	1582	Langmuir	HCA
Schneeweiss, M	1999	69	537	Phys A: Mater Sci Pr	HCA
Shaporenko, A	2006	151	45	J Electron Spectrosc	HCA
Shaporenko, A	2004	108	14462	J Phys Chem B	HCA
Shekhah, O	2006	8	3375	Phys Chem Chem Phys	HCA
Silien, C	2007	111	6357	J Phys Chem C	HCA
Silien, C	2008	112	3881	J Phys Chem C	HCA
Stohr, J	1992			NEXAFS Spectroscopy,	
Thome, J	1998	14	7435	Langmuir	HCA
Trippe, G	2002	26	1320	New J Chem	HCA
Trotter, J	1961	14	1135	Acta Crystallogr	HCA
Turyan, I	1997	69	894	Anal Chem	HCA

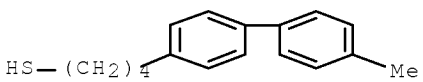
Wano, H	2005	21	4024	Langmuir	HCA
Weissa, M	2001	467-4	482	Nucl Instrum Methods	
Wiley, T	2008	130	10536	J Am Chem Soc	
Yu, H	1999	71	1354	Anal Chem	HCA
Zharnikov, M	2003	19	4682	Langmuir	HCA
Zhou, W	2004	20	4590	Langmuir	HCA
Zhu, T	1998	327-3	595	Thin Solid Films	HCA
Zubavichus, Y	2004	20	11022	Langmuir	HCA

OS.CITING REF COUNT: 17 THERE ARE 17 CAPLUS RECORDS THAT CITE THIS RECORD (17 CITINGS)

L35 ANSWER 6 OF 19 HCA COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 150:24762 HCA Full-text
TITLE: Friction and Adhesion on Different Phases of a Biphenyl-Alkanethiol Self-Assembled Monolayer on Gold Studied with Scanning Force Microscopy
AUTHOR(S): McCarthy, Francis J.; Buck, Manfred; Hahner, Georg
CORPORATE SOURCE: EaStCHEM School of Chemistry, University of St. Andrews, St. Andrews, KY16 9ST, UK
SOURCE: Journal of Physical Chemistry C (2008), 112(49), 19465-19469
CODEN: JPCCCK; ISSN: 1932-7447
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB We have investigated the friction and adhesion properties of two structurally different phases of ω-(4'-methylbiphenyl-4-yl) butanethiol CH3(C6H4)2(CH2)4SH (BP4) self-assembled monolayers (SAMs) on gold under water with scanning force microscopy. While the identical chemical of the two phases is reflected by very similar water contact angle values, lateral force measurements and force distance curves reveal the strong influence of the structure, i.e., of the mol. and defect d. on the mech. properties of the SAM. A surprisingly high difference in the resistance of the films to shearing but a similar friction coefficient is found for the two phases indicating a crucial influence of the film structure on the energy dissipation in SAMs. The results highlight the importance of structural effects in the interpretation of surface properties.

IT 298704-23-1D, gold bound
(friction and adhesion of biphenyl alkanethiol self-assembled monolayer on gold)
RN 298704-23-1 HCA
CN [1,1'-Biphenyl]-4-butanethiol, 4'-methyl- (CA INDEX NAME)



CC 66-4 (Surface Chemistry and Colloids)
ST friction adhesion biphenyl alkanethiol self assembled monolayer gold
IT Adhesion, physical
Friction
Self-assembled monolayers
(friction and adhesion of biphenyl alkanethiol self-assembled monolayer on gold)

IT 7440-57-5D, Gold, thiolated
(friction and adhesion of biphenyl alkanethiol self-assembled monolayer on gold)
IT 298704-23-1D, gold bound
(friction and adhesion of biphenyl alkanethiol self-assembled monolayer on gold)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Adams, D	2003	107	6668	J Phys Chem B	CAPLUS
Aslam, M	2003	3	115	Curr Appl Phys	
Azzam, W	2003	19	4958	Langmuir	HCA
Baunach, T	2002	373	743	Anal Bioanal Chem	HCA
Beake, B	1999	1	3345	Phys Chem Chem Phys	HCA
Brewer, N	2001	17	1970	Langmuir	HCA
Bumm, L	1996	271	1705	Science	HCA
Carpick, R	1997	97	1163	Chem Rev	HCA
Creager, S	1999	121	1059	J Am Chem Soc	HCA
Cui, X	2001	294	571	Science	HCA
Cyganik, P	2004	126	5960	J Am Chem Soc	HCA
Cyganik, P	2006	128	13868	J Am Chem Soc	HCA
Cyganik, P	2004	108	4989	J Phys Chem B	HCA
Dicke, C	2002	124	12619	J Am Chem Soc	HCA
Dicke, C	2002	106	4450	J Phys Chem B	HCA
Fan, F	2002	124	5550	J Am Chem Soc	HCA
Felgenhauer, T	2001	79	3323	Appl Phys Lett	HCA
Felgenhauer, T	2003	550	309	J Electroanal Chem	
Fischer, D	1997	15	2173	J Vac Sci Technol A	HCA
Frey, S	2001	17	2408	Langmuir	HCA
Fuxen, C	2001	17	3689	Langmuir	HCA
Garg, N	2002	18	2717	Langmuir	HCA
Geyer, W	1999	75	2401	Appl Phys Lett	HCA
Ishida, T	1999	103	1686	J Phys Chem B	HCA
Ishida, T	2002	106	5886	J Phys Chem B	HCA
Jin, Q	1999	425	101	Surf Sci	HCA
Kang, J	2001	17	95	Langmuir	HCA
Lee, S	2000	16	2220	Langmuir	HCA
Leung, T	2000	458	34	Surf Sci	HCA
Persson, B			1998	Sliding Friction:Phy	
Phanindra Sai, T	2007	40	3182	J Phys D: Appl Phys	
Rampi, M	2002	281	373	Chem Phys	HCA
Rong, H	2001	17	1582	Langmuir	HCA
Sikes, H	2001	291	1519	Science	HCA
Szoszkiewicz, R	2005	122	144708	J Chem Phys	MEDLINE
Tao, Y	1997	13	4018	Langmuir	HCA
Thom, I	2005	87	024101	Appl Phys Lett	
Tour, J	1995	117	9529	J Am Chem Soc	HCA
Ulman, A	2001	34	855	Acc Chem Res	HCA
Ulman, A	1991			Ultrathin Organic Fi	
Wold, D	2002	106	2813	J Phys Chem B	HCA
Yang, G	2003	107	8746	J Phys Chem B	HCA
Yoshizawa, H	1993	97	4128	J Phys Chem	HCA
Zehner, R	1997	13	2973	Langmuir	HCA
Zehner, R	1999	15	1121	Langmuir	HCA
Zhang, C	2004	95	3411	J Appl Phys	HCA

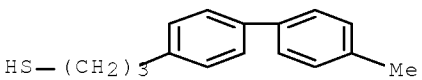
OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L35 ANSWER 7 OF 19 HCA COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER: 149:363843 HCA Full-text
TITLE: Functionalizing hydrogen-bonded surface networks with self-assembled monolayers
AUTHOR(S): Madueno, Rafael; Raeisaenen, Minna T.; Silien, Christophe; Buck, Manfred
CORPORATE SOURCE: EaStCHEM School of Chemistry, University of St Andrews, St Andrews, KY16 9ST, UK
SOURCE: Nature (London, United Kingdom) (2008), 454(7204), 618-621
CODEN: NATUAS; ISSN: 0028-0836
PUBLISHER: Nature Publishing Group
DOCUMENT TYPE: Journal
LANGUAGE: English

AB One of the central challenges in nanotechnol. is the development of flexible and efficient methods for creating ordered structures with nanometer precision over an extended length scale. Supramol. self-assembly on surfaces offers attractive features in this regard: it is a bottom-up' approach and thus allows the simple and rapid creation of surface assemblies, which are readily tuned through the choice of mol. building blocks used and stabilized by hydrogen bonding, van der Waals interactions, π-π bonding or metal coordination between the blocks. Assemblies as two-dimensional open networks are of particular interest for possible applications because well-defined pores can be used for the precise localization and confinement of guest entities such as mols. or clusters, which can add functionality to the supramol. network. Another widely used method for producing surface structures involves self -assembled monolayers (SAMs), which have introduced unprecedented flexibility in the ability to tailor interfaces and generate patterned surfaces. But SAMs are part of a top-down technol. that is limited in terms of the spatial resolution that can be achieved. The authors therefore rationalized that a particularly powerful fabrication platform might be realized by combining noncovalent self-assembly of porous networks and SAMs, with the former providing nanometer-scale precision and the latter allowing versatile functionalization. The two strategies can indeed be combined to create integrated network-SAM hybrid systems that are sufficiently robust for further processing. The supramol. network and the SAM can both be deposited from solution, which should enable the widespread and flexible use of this combined fabrication method.

IT 298704-21-9D, gold-bound
(hydrogen-bonded surface network as template for self-assembled monolayers)
RN 298704-21-9 HCA
CN [1,1'-Biphenyl]-4-propanethiol, 4'-methyl- (CA INDEX NAME)



CC 66-4 (Surface Chemistry and Colloids)
ST hydrogen bond surface hybrid network honeycomb template; self assembled monolayer SAM thiol
IT Supramolecular structure
(hybrid; hydrogen-bonded surface network as template for self -assembled monolayers)
IT Hydrogen bond
Self-assembled monolayers
(hydrogen-bonded surface network as template for self-

assembled monolayers)
IT Synthons
Templates
(surface network; hydrogen-bonded surface network as template for self-assembled monolayers)
IT Honeycomb structures
Self-assembly
(surface; hydrogen-bonded surface network as template for self-assembled monolayers)
IT 7440-50-8, Copper, processes
(copper (II) ion; hydrogen-bonded surface network as template for self-assembled monolayers)
IT 81-33-4 108-78-1, Melamine, processes
(hydrogen-bonded surface network as template for self-assembled monolayers)
IT 1322-36-7D, Dodecanethiol, gold-bound 34301-54-7D, 1-Adamantanethiol, gold-bound 298704-21-9D, gold-bound
(hydrogen-bonded surface network as template for self-assembled monolayers)
IT 7440-57-5, Gold, uses
(thin substrate layer on mica; hydrogen-bonded surface network as template for self-assembled monolayers)
RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Aakeroy, C	1993	22	397	Chem Soc Rev	HCA
Baldacchini, C	2006	124	154702	J Chem Phys	
Barth, J	2007	58	375	Annu Rev Phys Chem	HCA
Bilic, A	2006	2	1093	J Chem Theory Comput	HCA
Canas-Ventura, M	2007	46	1814	Angew Chem Int Ed	HCA
Dameron, A	2005	127	8697	J Am Chem Soc	HCA
De Feyter, S	2003	32	139	Chem Soc Rev	HCA
Diaz, D	2001	105	8746	J Phys Chem B	HCA
Furukawa, S	2007	46	2831	Angew Chem Int Ed	HCA
Gooding, J	2003	15	81	Electroanal	HCA
Kampschulte, L	2005	109	14074	J Phys Chem B	HCA
Li, Z	2005	21	6915	Langmuir	HCA
Love, J	2005	105	1103	Chem Rev	HCA
Lu, J	2004	108	5161	J Phys Chem B	HCA
Mena-Osteritz, E	2006	18	447	Adv Mater	HCA
Mrksich, M	2000	29	267	Chem Soc Rev	HCA
Oyamatsu, D	2001	497	97	J Electroanal Chem	HCA
Payer, D	2007	13	3900	Chem Eur J	HCA
Perdigao, L	2006	110	12539	J Phys Chem B	HCA
Pinheiro, L	2007	601	1836	Surf Sci	HCA
Schenning, A	2005		3245	Chem Commun	HCA
Schreiber, F	2004	16	R881	J Phys Condens Matte	HCA
Silien, C	2008	112	3881	J Phys Chem C	HCA
Spillmann, H	2006	18	275	Adv Mater	HCA
Stepanow, S	2007	46	710	Angew Chem Int Ed	HCA
Stepanow, S	2004	3	229	Nature Mater	HCA
Stohr, M	2007	3	1336	Small	HCA
Theobald, J	2003	424	1029	Nature	HCA
Thom, I	2005	87	024101	Appl Phys Lett	
Weber, U	2008	100	156101	Phys Rev Lett	MEDLINE

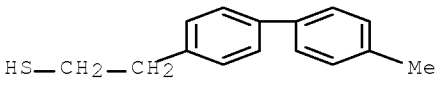
OS.CITING REF COUNT: 108 THERE ARE 108 CAPLUS RECORDS THAT CITE THIS RECORD (109 CITINGS)

L35 ANSWER 8 OF 19 HCA COPYRIGHT 2011 ACS on STN

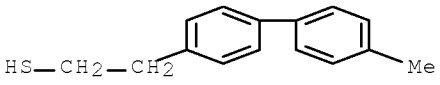
ACCESSION NUMBER: 148:436155 HCA Full-text
TITLE: On the Role of Extrinsic and Intrinsic Defects in the Underpotential Deposition of Cu on Thiol-Modified Au(111) Electrodes
AUTHOR(S): Silien, Christophe; Buck, Manfred
CORPORATE SOURCE: EaStChem School of Chemistry, University of St. Andrews, St. Andrews, KY16 9ST, UK
SOURCE: Journal of Physical Chemistry C (2008), 112(10), 3881-3890
CODEN: JPCCCK; ISSN: 1932-7447
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Underpotential deposition (UPD) of Cu on Au(111) electrodes modified by self-assembled monolayers (SAMs) of ω-(4'-methylbiphenyl-4-yl)ethanethiol (BP2) was studied in situ by electrochem. scanning tunneling microscopy. The UPD layer intercalated between SAM and Au consists of monat. high nanoislands on top of an extended Cu film. Nucleation and growth of the Cu UPD layer are accounted for by a mechanism that is fundamentally different from the one suggested in the literature for alkanethiols. Domain boundaries, vacancy islands, or step edges do not act as nucleation sites. The electrode passivation is therefore not limited by the intrinsic structure of the SAM but by extrinsic defects, which are associated with more substantial discontinuities in the SAM. These act not only as nucleation centers for the Cu UPD but throughout the whole growth process are the only sites through which Cu penetrates. The growth proceeds by diffusion of Cu at the SAM-substrate interface until completion of the UPD layer. The implications of the observations for the generation of metal-SAM-metal structures are discussed.

IT 317834-22-3D, gold bound
(role of extrinsic and intrinsic defects in underpotential deposition of Cu on electrodes from)
RN 317834-22-3 HCA
CN [1,1'-Biphenyl]-4-ethanethiol, 4'-methyl- (CA INDEX NAME)



IT 317834-22-3
(underpotential deposition of Cu on Au(111) electrodes modified by self-assembled monolayers of (methylbiphenylyl)ethanethiol studied in situ by electrochem. scanning tunneling microscopy)
RN 317834-22-3 HCA
CN [1,1'-Biphenyl]-4-ethanethiol, 4'-methyl- (CA INDEX NAME)



CC 72-8 (Electrochemistry)
Section cross-reference(s): 56, 66
IT Crystal defects

(extrinsic; in copper underpotential deposition on Au(111) electrodes modified by self-assembled monolayers of (methylbiphenylyl)ethanethiol in acid sulfate bath)

IT Cyclic voltammetry
(in underpotential deposition of Cu on Au(111) electrodes and on Au(111) electrodes modified by self-assembled monolayers of (methylbiphenylyl)ethanethiol in acid sulfate bath)

IT Interfacial structure
(of copper underpotential deposits on Au(111) electrodes modified by self-assembled monolayers of (methylbiphenylyl)ethanethiol)

IT Self-assembled monolayers
Underpotential deposition
(underpotential deposition of Cu on Au(111) electrodes modified by self-assembled monolayers of (methylbiphenylyl)ethanethiol studied in situ by electrochem. scanning tunneling microscopy)

IT Electrodeposits
(underpotential; morphol. of copper underpotential deposition on Au(111) electrodes modified by self-assembled monolayers of (methylbiphenylyl)ethanethiol in acid sulfate bath)

IT 7440-57-5D, Gold, thiolated with (methylbiphenylyl)ethanethiol
317834-22-3D, gold bound
(role of extrinsic and intrinsic defects in underpotential deposition of Cu on electrodes from)

IT 7440-50-8P, Copper, processes
(underpotential deposition of Cu on Au(111) electrodes modified by self-assembled monolayers of (methylbiphenylyl)ethanethiol studied in situ by electrochem. scanning tunneling microscopy)

IT 317834-22-3
(underpotential deposition of Cu on Au(111) electrodes modified by self-assembled monolayers of (methylbiphenylyl)ethanethiol studied in situ by electrochem. scanning tunneling microscopy)

IT 7440-57-5, Gold, uses
(underpotential deposition of Cu on Au(111) electrodes modified by self-assembled monolayers of (methylbiphenylyl)ethanethiol studied in situ by electrochem. scanning tunneling microscopy)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Azzaroni, O	2003	48	3107	Electrochim Acta	HCA
Baunach, T	2004	16	2024	Adv Mater	HCA
Baunach, T	2002	373	743	Anal Bioanal Chem	HCA
Boyen, H	2006	5	394	Nat Mater	HCA
Bucher, J	1994	10	979	Langmuir	HCA
Cavalleri, O	1997	269	479	Chem Phys Lett	HCA
Cavalleri, O	1995	340	L960	Surf Sci	HCA
Cavalleri, O	1999	208	107	Z Phys Chem	
Cyganik, P	2004	126	5960	J Am Chem Soc	HCA
Cyganik, P	2006	128	13868	J Am Chem Soc	HCA
Cyganik, P	2004	108	4989	J Phys Chem B	HCA
Cyganik, P	2005	109	10902	J Phys Chem B	HCA
Cyganik, P	2007	111	16909	J Phys Chem C	HCA
Doescher, M	2001	105	105	J Phys Chem B	HCA

Epple, M	2002	18	773	Langmuir	HCA
Felgenhauer, T	2001	79	3323	Appl Phys Lett	HCA
Finklea, H	1996	19	109	Electrochemistry of	HCA
Gilbert, S	1996	100	12123	J Phys Chem	HCA
Hagenstrom, H	1999	45	1141	Electrochim Acta	HCA
Hagenstrom, H	1999	15	2435	Langmuir	
Hagenstrom, H	1999	15	7802	Langmuir	
Hagenstrom, H	1999	15	7802	Langmuir	
Hagenstrom, H	2001	17	839	Langmuir	
Hines, M	1995	11	493	Langmuir	HCA
Ivanova, V	2005	50	4283	Electrochim Acta	HCA
Jennings, G	1996	12	6173	Langmuir	HCA
Kaltenpoth, G	2002	20	2734	J Vac Sci Technol B	HCA
Klikovits, J	2006	110	9966	J Phys Chem B	HCA
Langerock, S	2005	21	5124	Langmuir	HCA
Long, Y	2002	524	62	J Electroanal Chem	
Love, J	2005	105	1103	Chem Rev	HCA
Manolova, M	2005	590	146	Surf Sci	HCA
Miller, C	1991	95	877	J Phys Chem	HCA
Nagy, G	2006	110	12543	J Phys Chem B	HCA
Nishizawa, M	1997	13	5215	Langmuir	HCA
Nishizawa, M	1997	13	5215	Langmuir	HCA
Oyamatsu, D	1999	473	59	J Electroanal Chem	HCA
Oyamatsu, D	2001	497	97	J Electroanal Chem	HCA
Oyamatsu, D	1998	14	3298	Langmuir	HCA
Qu, D	2006	110	17570	J Phys Chem B	HCA
Rong, H	2001	17	1582	Langmuir	HCA
Rong, H	2001	17	1582	Langmuir	HCA
Schilardi, P	2005	12	38	Chem-Eur J	
Schneeweiss, M	1999	173	51	Phys Status Solidi A	HCA
Shekhah, O	2006	8	3375	Phys Chem Chem Phys	HCA
Smith, R	2004	75	1	Prog Surf Sci	HCA
Sondag-Huethorst, J	1994	64	285	Appl Phys Lett	HCA
Tai, Y	2004	85	6257	Appl Phys Lett	HCA
Thom, I	2005	87	024101	Appl Phys Lett	
Thom, I	2005	581	33	Surf Sci	HCA
Volkel, B	2005	597	32	Surf Sci	
Walker, A	2004	126	3954	J Am Chem Soc	HCA
Whelan, C	1998	441	109	J Electroanal Chem	HCA
Zamborini, F	1998	14	640	Langmuir	HCA

OS.CITING REF COUNT: 13 THERE ARE 13 CAPLUS RECORDS THAT CITE THIS RECORD (13 CITINGS)

L35 ANSWER 9 OF 19 HCA COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 148:388124 HCA Full-text
TITLE: Phase-Dependent Desorption from Biphenyl-Substituted Alkanethiol Self-Assembled Monolayers Induced by Ion Irradiation
AUTHOR(S): Vervaecke, Frederik; Wyczawska, Sabina; Cyganik, Piotr; Postawa, Zbigniew; Buck, Manfred ; Silverans, Roger E.; Lievens, Peter; Vandeweert, Erno
CORPORATE SOURCE: Laboratory of Solid State Physics and Magnetism and INPAC, Institute for Nanoscale Physics and Chemistry, K.U. Leuven, Louvain, 3001, Belg.
SOURCE: Journal of Physical Chemistry C (2008), 112(7), 2248-2251
CODEN: JPCCCK; ISSN: 1932-7447
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal

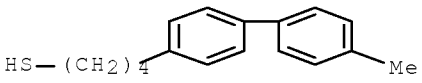
LANGUAGE: English

AB Using laser ionization in combination with time-of-flight mass spectrometry, we have studied ion-induced desorption of neutral particles from self-assembled monolayers (SAMs) of ω-(4'-methylbiphenyl-4-yl) alkane thiols (CH3(C6H4)2(CH2)nSH, BPn, n = 2, 4, 6) formed on Au(111) substrates. Because BPn/Au(111) SAMs with n = even exhibit polymorphism, the effect of purely structural changes on emission yield and fragmentation pattern could be studied without interference from changes in the chemical composition In spite of the high energy of the primary ion beam (15 keV), the mass spectra reveal a striking sensitivity of the desorption process to rather subtle changes in the structure of the layer. Depending on the SAM structure, substantial differences in the ratio between the cleavage of the mol.-substrate and the C-S bonds are observed For applications of SAMs as resists in ion beam lithog., the results demonstrate that well-defined removal of mols. requires exact control of the SAM structure.

IT 298704-23-1 298704-27-5 317834-22-3D, gold bound
(desorption from biphenyl-substituted alkanethiol self-assembled monolayer by ion irradiation)

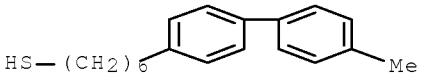
RN 298704-23-1 HCA

CN [1,1'-Biphenyl]-4-butanethiol, 4'-methyl- (CA INDEX NAME)



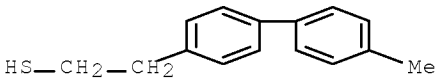
RN 298704-27-5 HCA

CN [1,1'-Biphenyl]-4-hexanethiol, 4'-methyl- (CA INDEX NAME)



RN 317834-22-3 HCA

CN [1,1'-Biphenyl]-4-ethanethiol, 4'-methyl- (CA INDEX NAME)



CC 66-3 (Surface Chemistry and Colloids)

ST desorption biphenyl substituted alkanethiol self assembled monolayer ion irradn

IT Desorption
Ion bombardment
Self-assembled monolayers
(desorption from biphenyl-substituted alkanethiol self-assembled monolayer by ion irradiation)

IT 7440-57-5D, Gold, thiolated
(desorption from biphenyl-substituted alkanethiol self-

assembled monolayer by ion irradiation)
IT 298704-23-1 298704-27-5 317834-22-3D, gold bound
(desorption from biphenyl-substituted alkanethiol self-assembled monolayer by ion irradiation)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Ada, E	1995	13	2189	J Vac Sci Technol, B	HCA
Azzam, W	2003	19	8262	Langmuir	HCA
Bard, A	1997	15	1805	J Vac Sci Technol, B	HCA
Chatterjee, R	1999	103	151	J Phys Chem B	HCA
Chenakin, S	1999	421	337	Surf Sci	HCA
Cyganik, P	2006	128	13868	J Am Chem Sci	HCA
Cyganik, P	2004	126	5960	J Am Chem Soc	HCA
Cyganik, P	2006	128	13868	J Am Chem Soc	HCA
Cyganik, P	2004	108	4989	J Phys Chem B	HCA
Cyganik, P	2005	109	10902	J Phys Chem B	HCA
Cyganik, P	2005	109	5085	J Phys Chem B	HCA
Cyganik, P	2005	109	5085	J Phys Chem B	HCA
Cyganik, P	2007	111	16909	J Phys Chem C	HCA
Cyganik, P	2007	111	16909	J Phys Chem C	HCA
Cyganik, P	1999	148	137	Nucl Instr Methods P	HCA
Felgenhauer, T	2003	550	309	J Electroanal Chem	
Frey, S	2002	18	3142	Langmuir	HCA
Gottschalck, J	2002	116	784	J Chem Phys	HCA
Heister, K	2001	105	6888	J Phys Chem B	HCA
Kruger, D	2001	115	4776	J Chem Phys	HCA
Li, C	2003	82	645	Appl Phys Lett	HCA
Long, Y	2002	524	62	J Electroanal Chem	
Love, J	2005	105	1103	Chem Rev	HCA
Lussem, B	2007	111	6392	J Phys Chem C	
Maksymovych, P	2006	97	146103	Phys Rev Lett	
Molina, L	2002	360	264	Chem Phys Lett	HCA
Nara, J	2004	120	6705	J Phys Chem B	HCA
Pacholski, M	1999	121	4716	J Am Chem Soc	HCA
Postawa, Z	2001	182	148	Nucl Instr Methods P	HCA
Riederer, D	1997	119	8089	J Am Chem Soc	HCA
Rong, H	2001	17	1582	Langmuir	HCA
Rong, H	2001	17	1582	Langmuir	HCA
Sellers, H	1993	115	9389	J Am Chem Soc	HCA
Smith, R	2004	75	1	Prog Surf Sci	HCA
Sun, S	2004	4	1381	Nano Lett	HCA
Taylor, R	1995	143	225	Int J Mass Spectrom	HCA
Thom, I	2005	581	33	Surf Sci	HCA
Vandeweert, E	2003	82	1114	Appl Phys Lett	HCA
Vandeweert, E	2000	164-1	820	Nucl Instr Meth Phys	HCA
Vandeweert, E	2001	64	195417	Phys Rev B	
Wong, S	2005	37	721	Surf Interface Anal	HCA
Yourdshahyan, Y	2002	117	825	J Chem Phys	HCA
Yu, M	2006	97	166102	Phys Rev Lett	
Zharnikov, M	2002	20	1793	J Vac Sci Technol, B	HCA
Zharnikov, M	2000	2	3359	Phys Chem Chem Phys	HCA

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L35 ANSWER 10 OF 19 HCA COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 148:63069 HCA Full-text
TITLE: Influence of Molecular Structure on Phase Transitions:

A Study of Self-Assembled Monolayers of 2-(Aryl)-ethane Thiols

AUTHOR(S): Cyganik, Piotr; Buck, Manfred; Strunskus, Thomas; Shaporenko, Andrey; Witte, Gregor; Zharnikov, Michael; Woell, Christof

CORPORATE SOURCE: EaStChem School of Chemistry, St. Andrews University, St. Andrews, KY16 9ST, UK

SOURCE: Journal of Physical Chemistry C (2007), 111(45), 16909-16919
CODEN: JPCCCK; ISSN: 1932-7447

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

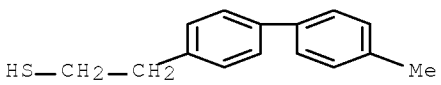
LANGUAGE: English

AB Self-assembled monolayers (SAMs) prepared on Au(111) substrates from solns. of ω-(4'-methylbiphenyl-4-yl)ethane thiol (CH3(C6H4)2(CH2)nSH, n = 2, BP2), at room temperature and subsequently annealed at temps. of up to 423 K were studied using scanning tunneling microscopy, LEED, high-resolution XPS, and near-edge X-ray absorption fine structure spectroscopy. Upon annealing a phase transition occurs from the low-temperature ($5\sqrt{3}$ + 3) structure common to all SAMs prepared from the series of BPn homologues with n = even studied so far, to a new structure which is markedly different from the high-temperature phases of the higher BPn homologues. Although its basic structure can be approximated by a ($2\sqrt{3}$ + 2) unit cell, the regular occurrence of line defects running exclusively along the <11.hivin.2> direction is the most characteristic feature of this new phase. Irresp. of these defects the phase transition dramatically improves the stability of the BP2 monolayer as demonstrated by exchange expts. In contrast to BP2, SAMs made from the closely related 2-phenylethane thiol (C6H5(CH2)2SH, P2) do not show any phase transition. The differences between BP2, its higher homologues, and P2 highlight the subtleties of the interplay of different factors determining the structure of a SAM.

IT 317834-22-3D, gold bound
(surface phase transition of self-assembled monolayer of arylethane thiol)

RN 317834-22-3 HCA

CN [1,1'-Biphenyl]-4-ethanethiol, 4'-methyl- (CA INDEX NAME)



CC 66-3 (Surface Chemistry and Colloids)

ST surface phase transition self assembled monolayer arylethane thiol

IT Self-assembled monolayers
Surface phase transition
Surface structure
(surface phase transition of self-assembled monolayer of arylethane thiol)

IT 7440-57-5D, Gold, thiolated
(surface phase transition of self-assembled monolayer of arylethane thiol)

IT 317834-22-3D, gold bound
(surface phase transition of self-assembled monolayer of arylethane thiol)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Azzam, W	2003	19	4958	Langmuir	HCA
Azzam, W	2003	19	8262	Langmuir	HCA
Azzam, W	2006	22	3647	Langmuir	HCA
Boyen, H	2006	5	394	Nat Mater	HCA
Camillone, N	1994	101	11031	J Chem Phys	
Cavalleri, O	1995	340	L960	Surf Sci	HCA
Charbonneau, G	1976	B32	1420	Acta Crystallogr	HCA
Cyganik, P	2004	126	5960	J Am Chem Soc	HCA
Cyganik, P	2006	128	13868	J Am Chem Soc	HCA
Cyganik, P	2004	108	4989	J Phys Chem B	HCA
Cyganik, P	2005	109	10902	J Phys Chem B	HCA
Cyganik, P	2005	109	5085	J Phys Chem B	HCA
Eck, W	2000	12	805	Adv Mater	HCA
Edinger, K	1993	9	4	Langmuir	HCA
Fan, F	2004	126	2568	J Am Chem Soc	HCA
Felgenhauer, T	2001	79	3323	Appl Phys Lett	HCA
Felgenhauer, T	2003	550	309	J Electroanal Chem	
Flood, A	2004	306	2055	Science	HCA
Frey, S	2001	17	2408	Langmuir	HCA
Frey, S	2002	18	3142	Langmuir	HCA
Fuxen, C	2001	17	3689	Langmuir	HCA
Geyer, W	1999	75	2401	Appl Phys Lett	HCA
Golzhauser, A	2001	13	806	Adv Mater	HCA
Golzhauser, A	1995	334	235	Surf Sci	
Heath, J	2003	56	43	Phys Today	HCA
Heimel, G	2006	96	19680	Phys Rev Lett	
Heister, K	2001	105	4058	J Phys Chem B	HCA
Heister, K	2001	105	6888	J Phys Chem B	HCA
Himmelhaus, M	1998	92	139	J Electron Spectrosc	HCA
Hitchcock, A	1987	91	531	J Phys Chem	HCA
Ishida, T	1998	14	2092	Langmuir	HCA
Ishida, T	1999	15	6799	Langmuir	HCA
Joachim, C	2004	15	1065	Nanotechnology	HCA
Kafer, D	2006	128	1723	J Am Chem Soc	
Kang, J	2001	17	95	Langmuir	HCA
Katsonis, N	2006	18	1397	Adv Mater	HCA
Kondoh, H	2003	90		Phys Rev Lett	
Laibinis, P	1991	113	7152	J Am Chem Soc	HCA
Lamont, C	1999	15	2037	Langmuir	HCA
Leung, T	2000	458	34	Surf Sci	HCA
Li, C	2003	82	645	Appl Phys Lett	HCA
Loeep, G	1999	15	3767	Langmuir	
Long, Y	2002	524	62	J Electroanal Chem	
Love, J	2005	105	1103	Chem Rev	HCA
Lussem, B	2007	111	6392	J Phys Chem C	
Maksymovych, P	2006	97	146103	Phys Rev Lett	
Moulder, J	1992			Handbook of X-ray Ph	
Poirier, G	1997	97	1117	Chem Rev	HCA
Poirier, G	1995	99	10966	J Phys Chem	HCA
Poirier, G	1997	13	2019	Langmuir	HCA
Poirier, G	2001	17	1176	Langmuir	HCA
Poirier, G	1996	272	1145	Science	HCA
Rong, H	2001	17	1582	Langmuir	HCA
Roper, M	2004	389	87	Chem Phys Lett	HCA
Seminario, J	2005	4	111	Nat Mater	HCA
Shaporenko, A	2006	151	45	J Electron Spectrosc	HCA
Shaporenko, A	2004	108	14462	J Phys Chem B	HCA

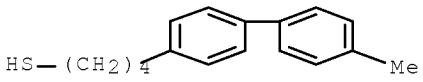
Shaporenko, A	2005	109	13630	J Phys Chem B	HCA
Smith, R	2004	75	1	Prog Surf Sci	HCA
Sondag-Huethorst, J	1994	98	6826	J Phys Chem	HCA
Staub, R	1998	14	6693	Langmuir	HCA
Stohr, J	1992			NEXAFS Spectroscopy	
Thom, I	2005	87	024101	Appl Phys Lett	
Toerker, M	2000	445	100	Surf Sci	HCA
Tran, E	2006	18	1323	Adv Mater	HCA
Ulman, A	2001	34	855	Acc Chem Res	HCA
Vandeweert, E	2003	82	1114	Appl Phys Lett	HCA
Venkataraman, L	2006	442	904	Nature	HCA
Whelan, C	1999	15	116	Langmuir	HCA
Yang, G	2000	104	9059	J Phys Chem B	HCA
Yang, G	2003	107	8746	J Phys Chem B	HCA
Yang, Y	2002	18	1157	Langmuir	HCA
Yu, M	2006	97	166102	Phys Rev Lett	
Zharnikov, M	2001	13	11333	J Phys Condens Matte	HCA
Zharnikov, M	2002	20	1793	J Vac Sci Technol, B	HCA

OS.CITING REF COUNT: 30 THERE ARE 30 CAPLUS RECORDS THAT CITE THIS RECORD (32 CITINGS)

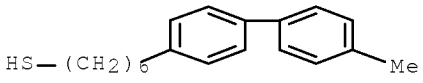
L35 ANSWER 11 OF 19 HCA COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 146:13970 HCA Full-text
TITLE: Competition as a Design Concept: Polymorphism in Self-Assembled Monolayers of Biphenyl-Based Thiols
AUTHOR(S): Cyganik, Piotr; Buck, Manfred; Strunskus, Thomas; Shaporenko, Andrei; Wilton-Ely, James D. E. T.; Zharnikov, Michael; Woell, Christof
CORPORATE SOURCE: School of Chemistry, St Andrews University, St Andrews, KY16 9ST, UK
SOURCE: Journal of the American Chemical Society (2006), 128(42), 13868-13878
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Self-assembled monolayers (SAMs) of two ω-(4'-methylbiphenyl-4-yl)alkanethiols (CH3(C6H4)2(CH2)nSH, BPn, n = 4, 6) on Au(111) substrates, prepared from solution at room temperature and subsequently annealed at temps. up to 493 K under a nitrogen atmospheric, were studied using scanning tunneling microscopy (STM), high-resolution XPS (HRXPS), and near-edge X-ray absorption fine structure spectroscopy (NEXAFS). In striking contrast to BPn SAMs with n = odd, for which only one phase is observed, the even-numbered BPn SAMs exhibit polymorphism. Irreversible phase transitions occur which involve three phases differing substantially in d. and stability. Upon annealing, BP4 and BP6 transform into a β-phase, which is characterized by an exceptionally high structural quality with virtually defect-free domains exceeding 500 nm in diameter Exchange expts., monitored by contact angle measurement, reveal that the β-phase exhibits a dramatically improved stability. The fundamental differences in the phase behavior of even- and odd-numbered BPn SAMs are discussed in terms of two design strategies based on cooperative and competitive effects.

IT 298704-23-1D, gold bound 298704-27-5D, gold bound
(polymorphism on self-assembled monolayer of biphenyl-based thiol on gold)
RN 298704-23-1 HCA
CN [1,1'-Biphenyl]-4-butanethiol, 4'-methyl- (CA INDEX NAME)



RN 298704-27-5 HCA
CN [1,1'-Biphenyl]-4-hexanethiol, 4'-methyl- (CA INDEX NAME)



CC 66-4 (Surface Chemistry and Colloids)
ST polymorphism self assembled monolayer
biphenyl thiol gold surface structure
IT Crystal polymorphism
Self-assembled monolayers
Surface structure
(polymorphism on self-assembled monolayer
of biphenyl-based thiol on gold)
IT 7440-57-5D, Gold, thiolated
(polymorphism on self-assembled monolayer
of biphenyl-based thiol on gold)
IT 298704-23-1D, gold bound 298704-27-5D, gold bound
(polymorphism on self-assembled monolayer
of biphenyl-based thiol on gold)
RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Adams, D	2003	107	6668	J Phys Chem B	CAPLUS
Azzam, W	2002	18	7766	Langmuir	HCA
Azzam, W	2003	19	4958	Langmuir	HCA
Azzam, W	2003	19	8262	Langmuir	HCA
Bastiansen, O	1985	128	115	J Mol Struct	HCA
Baunach, T	2004	16	2024	Adv Mater	HCA
Brock, C	1989	111	4586	J Am Chem Soc	HCA
Camillone, N	1994	101	11031	J Chem Phys	
Cavalleri, O	1995	340	L960	Surf Sci	HCA
Charbonneau, G	1976	B32	1420	Acta Crystallogr	HCA
Chickos, J	1990	55	3833	J Org Chem	HCA
Creager, S	1999	121	1059	J Am Chem Soc	HCA
Cyganik, P	2004	126	5960	J Am Chem Soc	HCA
Cyganik, P	2004	108	4989	J Phys Chem B	HCA
Cyganik, P	2005	109	10902	J Phys Chem B	HCA
Cyganik, P	2005	109	5085	J Phys Chem B	HCA
Dameron, A	2004	108	16761	J Phys Chem B	HCA
Driver, S	2000	457	11	Surf Sci	HCA
Duan, L	2001	105	9812	J Phys Chem B	HCA
Eck, W	2000	12	805	Adv Mater	HCA
Edinger, K	1993	9	4	Langmuir	HCA
Fan, F	2002	124	5550	J Am Chem Soc	HCA
Felgenhauer, T	2001	79	3323	Appl Phys Lett	HCA
Felgenhauer, T	2003	550	309	J Electroanal Chem	

Fenter, P	1993	70	2447	Phys Rev Lett	HCA
Frey, S	2001	17	2408	Langmuir	HCA
Frey, S	2002	18	3142	Langmuir	HCA
Fuxen, C	2001	17	3689	Langmuir	HCA
Geyer, W	1999	75	2401	Appl Phys Lett	HCA
Golzhauser, A	2001	13	806	Adv Mater	HCA
Golzhauser, A	1995	334	235	Surf Sci	
Hahner, G	1993	9	1955	Langmuir	
Heath, J	2003	56	43	Phys Today	HCA
Heister, K	2001	105	4058	J Phys Chem B	HCA
Heister, K	2001	105	6888	J Phys Chem B	HCA
Himmel, H	1997	13	4943	Langmuir	HCA
Himmel, H	1997	13	602	Langmuir	HCA
Himmelhaus, M	2000	104	576	J Phys Chem B	HCA
Hitchcock, A	1987	91	531	J Phys Chem	HCA
Ishida, T	1999	145	439	Appl Surf Sci	
Ishida, T	2002	106	5886	J Phys Chem B	HCA
Jacobsen, J	1995	75	489	Phys Rev Lett	HCA
Joachim, C	2004	15	1065	Nanotechnology	HCA
Kafer, D	2006	128	1723	J Am Chem Soc	
Kang, J	2001	17	95	Langmuir	HCA
Lamont, C	1999	15	2037	Langmuir	HCA
Leung, T	2000	458	34	Surf Sci	HCA
Long, Y	2002	524	62	J Electroanal Chem	
Love, J	2005	105	1103	Chem Rev	HCA
Lukas, S	2002	88	028301	Phys Rev Lett	MEDLINE
Lussem, B	2005	21	5256	Langmuir	MEDLINE
Molina, L	2002	360	264	Chem Phys Lett	HCA
Noh, J	2002	18	1953	Langmuir	HCA
Parkinson, G	2005	598	209	Surf Sci	HCA
Pertsin, A	1994	10	3668	Langmuir	HCA
Poirier, G	1997	97	1117	Chem Rev	HCA
Poirier, G	1995	99	10966	J Phys Chem	HCA
Poirier, G	1997	13	2019	Langmuir	HCA
Poirier, G	2001	17	1176	Langmuir	HCA
Poirier, G	1996	272	1145	Science	HCA
Rong, H	2001	17	1582	Langmuir	HCA
Roper, M	2004	389	87	Chem Phys Lett	HCA
Schreiber, F	2004	16	R881	J Phys:Condens Matte	HCA
Schreiber, F	2000	65	151	Prog Surf Sci	HCA
Schwartz, D	2001	52	107	Annu Rev Phys Chem	HCA
Shaporenko, A	2006	151	45	J Electron Spectrosc	HCA
Shaporenko, A	2004	108	14462	J Phys Chem B	HCA
Shaporenko, A	2005	109	13630	J Phys Chem B	HCA
Sikes, H	2001	291	1519	Science	HCA
Smalley, J	2004	126	14620	J Am Chem Soc	HCA
Smith, R	2004	75	1	Prog Surf Sci	HCA
Sondaghuethorst, J	1994	98	6826	J Phys Chem	HCA
Staub, R	1998	14	6693	Langmuir	HCA
Stohr, J	1992			NEXAFS Spectroscopy	
Tao, Y	1997	13	4018	Langmuir	HCA
Thom, I	2005	581	33	Surf Sci	HCA
Toerker, M	2000	445	100	Surf Sci	HCA
Tour, J	2000	33	791	Acc Chem Res	HCA
Ulman, A	2001	34	855	Acc Chem Res	HCA
Ulman, A	1996	96	1533	Chem Rev	HCA
Vervaecke, F	2005			Ph D Thesis, Katholi	
Whelan, C	1999	15	116	Langmuir	HCA
Whelan, C	1999	425	195	Surf Sci	HCA
Yang, G	2000	104	9059	J Phys Chem B	HCA

Yang, G	2003	107	8746	J Phys Chem B	HCA
Yu, M	2006	110	2164	J Phys Chem B	HCA
Zharnikov, M	2002	20	1793	J Vac Sci Technol B	HCA

OS.CITING REF COUNT: 37 THERE ARE 37 CAPLUS RECORDS THAT CITE THIS RECORD (38 CITINGS)

L35 ANSWER 12 OF 19 HCA COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 143:374060 HCA Full-text
TITLE: Patterning by thermal treatment of self-assembled monolayer anchored on substrate surface
INVENTOR(S): Buck, Manfred; Cyganik, Piotr
PATENT ASSIGNEE(S): The University Court of the University of St. Andrews, UK
SOURCE: PCT Int. Appl., 24 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

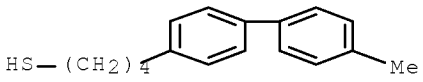
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005092516	A1	20051006	WO 2005-GB1159	20050324
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
GB 2426724	A	20061206	GB 2006-18673	20050324
GB 2426724	B	20080903		
US 20070140901	A1	20070621	US 2006-594654	20060926
PRIORITY APPLN. INFO.:			GB 2004-6841 A	20040326
			WO 2005-GB1159 W	20050324

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB The present invention provides a process for producing a surface-modified layer system comprising a substrate and a self-assembled monolayer (SAM) anchored to its surface. The SAM is comprised by aryl or rigid alicyclic moiety species. The process comprises providing a polymorphic SAM anchored to the substrate, e.g., a conductor or semiconductor metal or compound, and thermally treating the SAM to change from a first to a second structural form thereof. The invention also provides a thermolithog. process in which the thermal treatment is used to transfer a pattern to the SAM, which is then developed.

IT 298704-23-1
(SAM, gold bound; patterning by thermal treatment of self-assembled monolayer anchored on substrate surface)

RN 298704-23-1 HCA
CN [1,1'-Biphenyl]-4-butanethiol, 4'-methyl- (CA INDEX NAME)



IPCI B05D0001-18 [ICM,7]; B05D0003-02 [ICS,7]
IPCR B05D0001-18 [I,C*]; B05D0001-18 [I,A]; B05D0003-02 [I,C*]; B05D0003-02 [I,A]; B05D0005-00 [N,C*]; B05D0005-00 [N,A]
CC 66-3 (Surface Chemistry and Colloids)
Section cross-reference(s): 74, 76
ST self assembled monolayer substrate surface thermal treatment patterning
IT Self-assembled monolayers
Surface phase transition
Surface structure
(patterning by thermal treatment of self-assembled monolayer anchored on substrate surface)
IT Lithography
(thermo-; patterning by thermal treatment of self-assembled monolayer anchored on substrate surface)
IT 298704-23-1
(SAM, gold bound; patterning by thermal treatment of self-assembled monolayer anchored on substrate surface)
IT 1303-00-0, Gallium arsenide, uses 7429-90-5, Aluminum, uses 7439-89-6, Iron, uses 7439-96-5, Manganese, uses 7439-98-7, Molybdenum, uses 7440-06-4, Platinum, uses 7440-22-4, Silver, uses 7440-32-6, Titanium, uses 7440-33-7, Tungsten, uses 7440-47-3, Chromium, uses 7440-57-5, Gold, uses 7440-62-2, Vanadium, uses 7440-67-7, Zirconium, uses 12597-69-2, Steel, uses 22398-80-7, Indium phosphide, uses
(substrate; patterning by thermal treatment of self-assembled monolayer anchored on substrate surface)
RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Bension, R	1994			EP 0598361 A	HCA
Bocian, D	2003			US 2003081463 A1	
Effenberger, F	2003			US 2003035967 A1	HCA

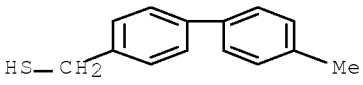
L35 ANSWER 13 OF 19 HCA COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 143:334735 HCA Full-text
TITLE: Replicative generation of metal microstructures by template-directed electrometallization
AUTHOR(S): Thom, I.; Haehner, G.; Buck, M.
CORPORATE SOURCE: EaStCHEM School of Chemistry, University of St. Andrews, St. Andrews, KY16 9ST, UK
SOURCE: Applied Physics Letters (2005), 87(2), 024101/1-024101/3
CODEN: APPLAB; ISSN: 0003-6951
PUBLISHER: American Institute of Physics
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Cu structures were produced by electrodeposition onto patterned self-assembled monolayers (SAMS) of thiols adsorbed on polycryst. Au substrates and subsequent transfer to an insulating substrate. Selective metal deposition was achieved using thiols which differ in their electrochem. blocking

properties, hexadecanethiol [Me(CH2)15SH] and ω-(4'-methylbiphenyl-4-yl)methanethiol (Me-C6H4-C6H4-CH2-SH). Besides control of the blocking properties, the SAM served to minimize adhesion between the metal deposit and the substrate, thus, allowing the transfer of the metal pattern. Since the process is replicative, it represents a very simple and fast route to generating metal patterns.

IT 330442-96-1
(replicative generation of copper microstructures by template-directed copper electrodeposition on patterned thiol self-assembled monolayers on gold and subsequent transfer of copper pattern to glass substrate)

RN 330442-96-1 HCA

CN [1,1'-Biphenyl]-4-methanethiol, 4'-methyl- (CA INDEX NAME)



CC 72-8 (Electrochemistry)
Section cross-reference(s): 56, 66

ST replicative generation metal microstructure template electrometallization; copper electrodeposition patterned SAM transfer insulating substrate; adsorbed thiol pattern gold copper electrodeposition

IT Electrodeposition
Self-assembled monolayers
(replicative generation of copper microstructures by template-directed copper electrodeposition on patterned thiol self-assembled monolayers on gold and subsequent transfer of copper pattern to glass substrate)

IT Thiols, uses
(replicative generation of copper microstructures by template-directed copper electrodeposition on patterned thiol self-assembled monolayers on gold and subsequent transfer of copper pattern to glass substrate)

IT 7440-50-8P, Copper, processes
(replicative generation of copper microstructures by template-directed copper electrodeposition on patterned thiol self-assembled monolayers on gold and subsequent transfer of copper pattern to glass substrate)

IT 7440-57-5, Gold, uses
(replicative generation of copper microstructures by template-directed copper electrodeposition on patterned thiol self-assembled monolayers on gold and subsequent transfer of copper pattern to glass substrate)

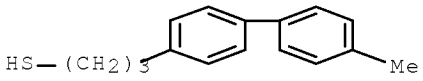
IT 2917-26-2, Hexadecanethiol 330442-96-1
(replicative generation of copper microstructures by template-directed copper electrodeposition on patterned thiol self-assembled monolayers on gold and subsequent transfer of copper pattern to glass substrate)

RETABLE

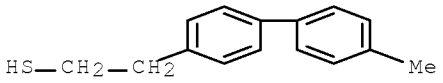
Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Azzaroni, O	2003	48	3107	Electrochim Acta	HCA
Barnes, W	2003	424	824	Nature (London)	HCA
Baunach, T	2004	16	2024	Adv Mater (Weinheim,	HCA

Bradley, J	1997	389	268	Nature (London)	HCA
Choi, J	2004	4	1699	Nano Lett	HCA
Felgenhauer, T	2001	79	3323	Appl Phys Lett	HCA
Felgenhauer, T	2003	550	309	J Electroanal Chem	
Finklea, H	1996		109	Electroanalytical Ch	HCA
Fleury, V	2002	416	716	Nature (London)	HCA
Geissler, M	2004	16	1249	Adv Mater (Weinheim,	HCA
Ginger, D	2004	43	30	Angew Chem, Int Ed	
Guan, F	2004	230	131	Appl Surf Sci	HCA
Huang, Y	2002	372	49	Anal Bioanal Chem	HCA
Kim, B	2001	57	755	Microelectron Eng	
Kramer, S	2003	103	4367	Chem Rev (Washington	
Rong, H	2001	17	1582	Langmuir	HCA
Schilardi, P	2001	17	2748	Langmuir	HCA
Smith, R	2004	75	1	Prog Surf Sci	HCA
Sondag-Huethorst, J	1994	64	285	Appl Phys Lett	HCA
Sun, S	2004	4	1381	Nano Lett	HCA
Xia, Y	1998	37	551	Angew Chem, Int Ed	
Zach, M	2000	290	2120	Science	HCA
Zhang, M	2004	16	409	Adv Mater (Weinheim,	HCA
Zhou, F	2004	561	1	Surf Sci	HCA

L35 ANSWER 14 OF 19 HCA COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 143:84114 HCA Full-text
TITLE: Stress in Self-Assembled Monolayers: ω-Biphenyl Alkane Thiols on Au(111)
AUTHOR(S): Cyganik, Piotr; Buck, Manfred; Wilton-Ely, James D. E. T.; Woell, Christof
CORPORATE SOURCE: School of Chemistry, University of St. Andrews, St. Andrews, KY16 9ST, UK
SOURCE: Journal of Physical Chemistry B (2005), 109(21), 10902-10908
CODEN: JPCBFK; ISSN: 1520-6106
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Self-assembled monolayers of ω-(4'-methylbiphenyl-4-yl) alkane thiols CH3(C6H4)2(CH2)nSH (BPn, n = 2, 3, and 5) on Au(111) substrates, prepared at room and elevated temps., were studied using scanning tunneling microscopy. In contrast to the biphenyl thiol analogs with n = 0 or 1, ordered domains of large size are formed which exhibit small, periodic height variations on a length scale of several nanometers. These are attributed to solitons (or domain walls), resulting from structural mismatch between the mol. adlayer and the gold substrate. The implications of these results for the design of aromatic thiols to cope with stress and yield low-defect d. self- assembled monolayers are discussed.
IT 298704-21-9D, gold bound 317834-22-3D, gold bound
(surface phase and mol. configuration of SAM of biphenyl alkane thiol on gold)
RN 298704-21-9 HCA
CN [1,1'-Biphenyl]-4-propanethiol, 4'-methyl- (CA INDEX NAME)



RN 317834-22-3 HCA
CN [1,1'-Biphenyl]-4-ethanethiol, 4'-methyl- (CA INDEX NAME)



CC 66-3 (Surface Chemistry and Colloids)
ST surface phase mol configuration SAM biphenyl alkane thiol gold
IT Configuration
Self-assembled monolayers
Surface structure
(surface phase and mol. configuration of SAM of biphenyl alkane thiol on gold)
IT 7440-57-5D, Gold, thiolated
(surface phase and mol. configuration of SAM of biphenyl alkane thiol on gold)
IT 298704-21-9D, gold bound 298704-25-3D, gold bound
317834-22-3D, gold bound
(surface phase and mol. configuration of SAM of biphenyl alkane thiol on gold)
RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Adams, D	2003	107	6668	J Phys Chem B	CAPLUS
Aslam, M	2003	3	115	Curr Appl Phys	
Azzam, W	2003	19	4958	Langmuir	HCA
Azzam, W	2003	19	8262	Langmuir	HCA
Baunach, T	2004	16	2024	Adv Mater	HCA
Berger, R	1998	66	S55	J Appl Phys A: Mater	HCA
Berger, R	1997	276	2021	Science	HCA
Biener, M	2005	21	1668	Langmuir	HCA
Bratkovsky, A	2003	67	115307	Phys Rev B	
Bruch, L	1997			Physical Adsorption:	
Budewski, E	1996			Electrochemical Phas	
Bumm, L	1999	121	8017	J Am Chem Soc	HCA
Cavalleri, O	1995	340	L960	Surf Sci	HCA
Creager, S	1999	121	1059	J Am Chem Soc	HCA
Cyganik, P	2004	126	5960	J Am Chem Soc	HCA
Cyganik, P	2004	108	4989	J Phys Chem B	HCA
Cyganik, P				Manuscript in prepar	
Dameron, A	2004	108	16761	J Phys Chem B	HCA
Duan, L	2001	105	9812	J Phys Chem B	HCA
Duan, L	2001	17	2986	Langmuir	HCA
Edinger, K	1993	9	4	Langmuir	HCA
Fan, F	2002	124	5550	J Am Chem Soc	HCA
Felgenhauer, T	2001	79	3323	Appl Phys Lett	HCA
Felgenhauer, T	2003	550	309	J Electroanal Chem	
Fenter, P	1997	106	1600	J Chem Phys	HCA
Frenkel, Y	1938	8	1340	Zh Eksp Teor Fiz	
Geyer, W	1999	75	2401	Appl Phys Lett	HCA
Godin, M	2004	20	7090	Langmuir	HCA
Gottschalck, J	2002	116	784	J Chem Phys	HCA
Graham, A	1997	106	6194	J Chem Phys	HCA
Harten, U	1985	54	2619	Phys Rev Lett	HCA

Heath, J	2003	56	43	Phys Today	HCA
Ibach, H	1997	29	195	Surf Sci Rep	
Ishida, T	2002	106	5886	J Phys Chem B	HCA
Ishida, T	2002	18	83	Langmuir	HCA
Ishida, T	2002	514	187	Surf Sci	HCA
Jacobsen, J	1995	75	489	Phys Rev Lett	HCA
Joachim, C	2004	15	1065	Nanotechnology	HCA
Kang, J	2001	17	95	Langmuir	HCA
Kondoh, H	2003	90	066102	Phys Rev Lett	MEDLINE
Kornilovitch, P	2001	6419	195413	Phys Rev B	
Leung, T	2000	458	34	Surf Sci	HCA
Molina, L	2002	360	264	Chem Phys Lett	HCA
Nara, J	2004	120	6705	J Phys Chem	HCA
Poirier, G	1997	97	1117	Chem Rev	HCA
Poirier, G	1995	99	10966	J Phys Chem	HCA
Rong, H	2001	17	1582	Langmuir	HCA
Samant, M	1992	8	1615	Langmuir	HCA
Shaporenko, A				J Phys Chem B	
Sikes, H	2001	291	1519	Science	HCA
Smalley, J	2004	126	14620	J Am Chem Soc	HCA
Tao, Y	1997	13	4018	Langmuir	
Tour, J	2000	33	791	Acc Chem Res	HCA
Trotter, J	1961	14	1135	Acta Crystallogr	HCA
Ulman, A	1996	96	1533	Chem Rev	HCA
Woll, C	1989	39	7988	Phys Rev B	HCA
Yang, G	2000	104	9059	J Phys Chem B	HCA
Yang, G	2003	107	8746	J Phys Chem B	HCA

OS.CITING REF COUNT: 40 THERE ARE 40 CAPLUS RECORDS THAT CITE THIS RECORD (41 CITINGS)

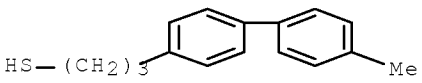
L35 ANSWER 15 OF 19 HCA COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 143:15308 HCA Full-text
TITLE: Electrochemical stability of self-assembled monolayers of biphenyl based thiols studied by cyclic voltammetry and second harmonic generation
AUTHOR(S): Thom, Ian; Buck, Manfred
CORPORATE SOURCE: School of Chemistry, University of St. Andrews, St. Andrews, KY16 9ST, UK
SOURCE: Surface Science (2005), 581(1), 33-46
CODEN: SUSCAS; ISSN: 0039-6028
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The reductive desorption of self-assembled monolayers (SAMs) of ω-(4'-methylbiphenyl-4-yl)alkanethiols (Me-C6H4-C6H4(CH2)n-SH, BPn) on Au(111) on mica was studied in 0.5M KOH solution as a function of the length of the aliphatic spacer chain (n = 1-6 and 12) and for 2 different prepns. temps. (295 K and 343 K). Second harmonic generation (SHG) was applied in situ parallel to cyclic voltammetry (CV). Odd-even differences in the structure of the BPn monolayers are clearly reflected in the electrochem. stability, as well as by the charge and shape of the desorption peak. For n = 1-5 a single desorption peak is detected whereas multiple peaks occur for BP6 similar to hexadecane thiol which was also studied for comparison. An increased preparation temperature affects the shape and width of the desorption peak but not the position. BP1 exhibits a temperature dependence different from the other homologs. The relation between coverage monitored by SHG and desorption charge determined from the CVs is linear and surprisingly independent from the details of the SAMs . The combined SHG and CV expts. suggest that capacitive

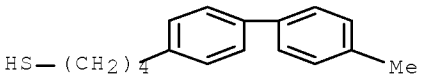
and faradaic current are always closely coupled even for BP6 and hexadecane thiol which exhibit multiple desorption peaks.

IT 298704-21-9 298704-23-1 298704-27-5
317834-22-3 330442-96-1 392702-54-4
(electrochem. stability and reductive desorption of self-assembled monolayers of biphenyl based thiols on Au(111) on mica in KOH solution studied by cyclic voltammetry and second harmonic generation)

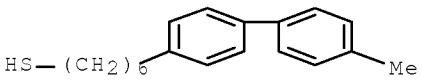
RN 298704-21-9 HCA
CN [1,1'-Biphenyl]-4-propanethiol, 4'-methyl- (CA INDEX NAME)



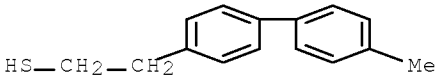
RN 298704-23-1 HCA
CN [1,1'-Biphenyl]-4-butanethiol, 4'-methyl- (CA INDEX NAME)



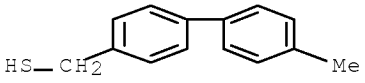
RN 298704-27-5 HCA
CN [1,1'-Biphenyl]-4-hexanethiol, 4'-methyl- (CA INDEX NAME)



RN 317834-22-3 HCA
CN [1,1'-Biphenyl]-4-ethanethiol, 4'-methyl- (CA INDEX NAME)

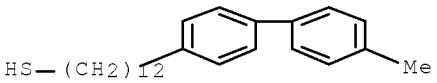


RN 330442-96-1 HCA
CN [1,1'-Biphenyl]-4-methanethiol, 4'-methyl- (CA INDEX NAME)



RN 392702-54-4 HCA

CN [1,1'-Biphenyl]-4-dodecanethiol, 4'-methyl- (CA INDEX NAME)



CC 72-2 (Electrochemistry)
Section cross-reference(s): 66, 73
ST electrochem stability self assembled monolayers biphenyl based thiol; cyclic voltammetry electrochem stability biphenyl based thiol gold; second harmonic generation electrochem stability biphenyl based thiol gold
IT Electric charge
Electric potential
(desorption; self-assembled monolayers of biphenyl based thiols on Au(111) on mica in KOH solution)
IT Cyclic voltammetry
Second-harmonic generation
Self-assembled monolayers
(electrochem. stability and reductive desorption of self-assembled monolayers of biphenyl based thiols on Au(111) on mica in KOH solution studied by cyclic voltammetry and second harmonic generation)
IT Thiols, properties
(electrochem. stability and reductive desorption of self-assembled monolayers of biphenyl based thiols on Au(111) on mica in KOH solution studied by cyclic voltammetry and second harmonic generation)
IT Desorption
(electrochem.; electrochem. stability and reductive desorption of self-assembled monolayers of biphenyl based thiols on Au(111) on mica in KOH solution studied by cyclic voltammetry and second harmonic generation)
IT 2917-26-2, Hexadecanethiol 298704-21-9 298704-23-1 298704-25-3 298704-27-5 317834-22-3 330442-96-1 392702-54-4
(electrochem. stability and reductive desorption of self-assembled monolayers of biphenyl based thiols on Au(111) on mica in KOH solution studied by cyclic voltammetry and second harmonic generation)
IT 7440-57-5, Gold, uses
(electrochem. stability and reductive desorption of self-assembled monolayers of biphenyl based thiols on Au(111) on mica in KOH solution studied by cyclic voltammetry and second harmonic generation)
IT 1310-58-3, Potassium hydroxide (K(OH)), uses
(electrochem. stability and reductive desorption of self-assembled monolayers of biphenyl based thiols on Au(111) on mica in KOH solution studied by cyclic voltammetry and second harmonic generation)
RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Adams, D	2003	107	6668	J Phys Chem B	CAPLUS
Aoki, K	1998	452	187	J Electroanal Chem	HCA
Arihara, K	2003	5	3758	PCCP Phys Chem Chem	HCA

Azzam, W	2003	19	8262	Langmuir	HCA
Azzaroni, O	2002	80	1061	Appl Phys Lett	HCA
Azzaroni, O	2001	17	6647	Langmuir	HCA
Bard, A	2001			Electrochemical Meth	
Buck, M	1992	10	926	J Vac Sci Technol A-	HCA
Bumm, L	1999	121	8017	J Am Chem Soc	HCA
Byloos, M	1999	103	6554	J Phys Chem B	HCA
Byloos, M	2001	105	5900	J Phys Chem B	HCA
Byloos, M	2001	17	2478	Langmuir	HCA
Calvente, J	2000	45	3087	Electrochim Acta	HCA
Cyganik, P	2004	108	4989	J Phys Chem B	HCA
Cyganik, P				Submitted to J Phys	
Dannenberger, O	1999	103	2202	J Phys Chem B	HCA
Esplandiu, M	2001	17	828	Langmuir	HCA
Felgenhauer, T	2001	79	3323	Appl Phys Lett	HCA
Felgenhauer, T	2003	550	309	J Electroanal Chem	
Finklea, H	1996	19	109	Electroanalytical Ch	HCA
Gooding, J	2003	15	81	Electroanalysis	HCA
He, Y	2001	105	3981	J Phys Chem B	HCA
Hobara, D	1998	14	3590	Langmuir	HCA
Imabayashi, S	1997	428	33	J Electroanal Chem	HCA
Imabayashi, S	1997	13	4502	Langmuir	HCA
Janek, R	1998	14	3011	Langmuir	HCA
Kakiuchi, T	2002	18	5231	Langmuir	HCA
Kawaguchi, T	2000	16	9830	Langmuir	HCA
Krings, N	2003	49	167	Electrochim Acta	HCA
Loglio, F	2003	19	830	Langmuir	HCA
Long, Y	2002	524	62	J Electroanal Chem	
Ma, F	2000	16	6188	Langmuir	HCA
Matsuda, H	1987	217	1	J Electroanal Chem	HCA
Matsuda, H	1987	217	15	J Electroanal Chem	HCA
Mirsky, V	2002	21	439	Trends Anal Chem	HCA
Mirwald, S	1995	335	264	Surf Sci	HCA
Qu, D	2001	517	45	J Electroanal Chem	HCA
Rifai, S	2002	531	111	J Electroanal Chem	HCA
Rifai, S	2003	550	277	J Electroanal Chem	
Rodriguez, J	1987	233	283	J Electroanal Chem	HCA
Rong, H	2001	17	1582	Langmuir	HCA
Rong, H	2000			Ph D Thesis, Ruprech	
Schneider, T	1993	115	12391	J Am Chem Soc	HCA
Sondag-Huethorst, J	1994	64	285	Appl Phys Lett	HCA
Strbac, S	1993	362	47	J Electroanal Chem	HCA
Strbac, S	1996	403	169	J Electroanal Chem	HCA
Sumi, T	2003	550	321	J Electroanal Chem	
Sumi, T	2004	108	6422	J Phys Chem B	HCA
Tadjeddine, A	1998	26	159	Spectroscopy for Sur	HCA
Tao, Y	1997	13	4018	Langmuir	HCA
Thom, I				In preparation	
Vela, M	2000	104	11878	J Phys Chem B	HCA
Wan, L	2000	104	3563	J Phys Chem B	HCA
Wano, H	2001	17	8224	Langmuir	HCA
Whelan, C	1999	15	116	Langmuir	HCA
Widrig, C	1991	310	335	J Electroanal Chem I	HCA
Wong, S	2000	485	135	J Electroanal Chem	HCA
Yamada, R	2000	16	5523	Langmuir	HCA
Yang, D	1997	429	1	J Electroanal Chem	HCA
Yang, D	1998	441	173	J Electroanal Chem	HCA
Yang, D	1997	101	1158	J Phys Chem B	HCA
Yang, D	1996	12	6570	Langmuir	HCA
Yang, D	1997	13	243	Langmuir	HCA

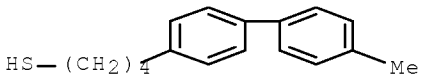
Zhang, Y	2004	20	962	Langmuir	HCA
Zhong, C	1997	425	147	J Electroanal Chem	HCA

OS.CITING REF COUNT: 20 THERE ARE 20 CAPLUS RECORDS THAT CITE THIS RECORD (20 CITINGS)

L35 ANSWER 16 OF 19 HCA COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 141:60270 HCA Full-text
TITLE: Polymorphism in Biphenyl-Based Self-Assembled Monolayers of Thiols
AUTHOR(S): Cyganik, Piotr; Buck, Manfred
CORPORATE SOURCE: School of Chemistry, University of St. Andrews, St. Andrews, KY16 9ST, UK
SOURCE: Journal of the American Chemical Society (2004), 126(19), 5960-5961
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Self-assembled monolayers of ω-(4'-methylbiphenyl-4-yl) butanethiol (H3C-C6H4-C6H4-(CH2)n-SH) on Au(111) substrates were investigated with scanning tunneling microscopy and contact angle measurements. A striking polymorphism was observed upon annealing, and structural changes were paralleled by a switch in stability against exchange by other thiols from unstable to stable. The phase formed at temps. above 413 K was characterized by a very high structural perfection over areas exceeding 105 nm2. The results suggest an addnl. dimension in the control of structure and properties of thiol monolayers if different factors contributing to the energetics of SAMs enter in a competing rather than a cooperative way.

IT 298704-23-1D, gold bound
(SAM; surface phase transition and structure of biphenyl-based SAM on gold)
RN 298704-23-1 HCA
CN [1,1'-Biphenyl]-4-butanethiol, 4'-methyl- (CA INDEX NAME)



CC 66-3 (Surface Chemistry and Colloids)
ST polymorphism surface phase structure biphenyl SAM gold
IT Self-assembled monolayers
Surface phase transition
Surface structure
(surface phase transition and structure of biphenyl-based SAM on gold)
IT 7440-57-5D, Gold, thiolated
(SAM; surface phase transition and structure of biphenyl-based SAM on gold)
IT 298704-23-1D, gold bound
(SAM; surface phase transition and structure of biphenyl-based SAM on gold)
RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Adams, D	2003	107	6668	J Phys Chem B	CAPLUS

Azzam, W	2002	18	7766	Langmuir	HCA
Azzam, W	2003	19	4958	Langmuir	HCA
Azzam, W	2003	19	8262	Langmuir	HCA
Barrena, E	2001	114	4210	J Chem Phys	HCA
Cyganik, P	2004	108	4989	J Phys Chem B	HCA
Donhauser, Z	2001	292	2303	Science	HCA
Felgenhauer, T	2003	550	309	J Electroanal Chem	
Garg, N	2002	18	2717	Langmuir	HCA
Golzhauser, A	2001	13	806	Adv Mater	HCA
Ishida, T	2002	514	187	Surf Sci	HCA
Leung, T	2000	458	34	Surf Sci	HCA
Li, C	2003	82	645	Appl Phys Lett	HCA
Long, Y	2002	524	62	J Electroanal Chem	
Rong, H	2001	17	1582	Langmuir	HCA
Schreiber, F	2000	65	151	Prog Surf Sci	HCA
Tao, Y	1997	13	4018	Langmuir	HCA
Ulman, A	2001	34	855	Acc Chem Res	HCA
Xia, Y	1999	99	1823	Chem Rev	HCA
Zharnikov, M	2001	13	11333	J Phys:Condens Matte	HCA

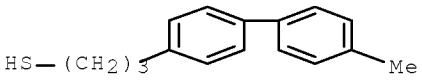
OS.CITING REF COUNT: 43 THERE ARE 43 CAPLUS RECORDS THAT CITE THIS RECORD (44 CITINGS)

L35 ANSWER 17 OF 19 HCA COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 140:412772 HCA Full-text
TITLE: Self-Assembled Monolayers of ω-Biphenylalkanethiols on Au(111): Influence of Spacer Chain on Molecular Packing
AUTHOR(S): Cyganik, Piotr; Buck, Manfred; Azzam, Waleed; Woell, Christof
CORPORATE SOURCE: School of Chemistry, University of St. Andrews, St. Andrews, Fife, KY16 9ST, UK
SOURCE: Journal of Physical Chemistry B (2004), 108(16), 4989-4996
CODEN: JPCBFK; ISSN: 1520-6106
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

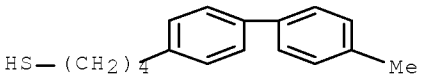
AB Self-assembled monolayers (SAM) of ω-(4'-methylbiphenyl-4-yl)alkanethiols CH3(C6H4)2(CH2)nSH (BPn, n = 1-6) on Au(111) substrates, prepared at room and elevated temps., were studied using scanning tunneling microscopy (STM). Molecularly resolved images reveal that all BPn SAMs form well-ordered layers over areas easily exceeding 50 + 50 nm2. Only two basic structures are alternatingly adopted with n changing between odd and even. The unit cell of odd-numbered SAMs is described by an oblique (2√3 + √3)R30° structure and contains two mols. In contrast, the even-numbered SAMs are described by a much larger, rectangular (5√3 + 3) structure with eight mols. per unit cell and occupying an area per mol. larger by about 25% compared to n = odd. With the exception of BP1 and BP6 the preparation at elevated temps. resulted in a significant improvement in structural quality, yielding very large domains. For BP6 prepared at 343 K a strong domain anisotropy is observed, which is explained by the influence of the alkane spacer chain. For BP1 prepared at 343 K formation of gold islands is concluded.

IT 298704-21-9D, gold bound 298704-23-1D, gold bound
298704-27-5D, gold bound 317834-22-3D, gold bound
330442-96-1D, gold bound
(effect of spacer chain on mol. configuration and surface structure of biphenylalkanethiol SAM)

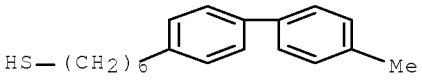
RN 298704-21-9 HCA
CN [1,1'-Biphenyl]-4-propanethiol, 4'-methyl- (CA INDEX NAME)



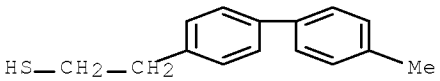
RN 298704-23-1 HCA
CN [1,1'-Biphenyl]-4-butanethiol, 4'-methyl- (CA INDEX NAME)



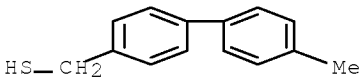
RN 298704-27-5 HCA
CN [1,1'-Biphenyl]-4-hexanethiol, 4'-methyl- (CA INDEX NAME)



RN 317834-22-3 HCA
CN [1,1'-Biphenyl]-4-ethanethiol, 4'-methyl- (CA INDEX NAME)



RN 330442-96-1 HCA
CN [1,1'-Biphenyl]-4-methanethiol, 4'-methyl- (CA INDEX NAME)



CC 66-3 (Surface Chemistry and Colloids)
ST SAM biphenylalkanethiol gold spacer chain mol configuration surface structure
IT Configuration
Self-assembled monolayers
Surface structure
(effect of spacer chain on mol. configuration and surface structure of biphenylalkanethiol SAM)
IT 7440-57-5D, Gold, thiolated
(effect of spacer chain on mol. configuration and surface structure of biphenylalkanethiol SAM)

IT 298704-21-9D, gold bound 298704-23-1D, gold bound
298704-25-3D, gold bound 298704-27-5D, gold bound
317834-22-3D, gold bound 330442-96-1D, gold bound
(effect of spacer chain on mol. configuration and surface structure of biphenylalkanethiol SAM)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Adams, D	2003	107	6668	J Phys Chem B	CAPLUS
Aslam, M	2003	3	115	Curr Appl Phys	
Azzam, W	2003	19	4958	Langmuir	HCA
Azzam, W	2003	19	8262	Langmuir	HCA
Baunach, T	2002	373	743	Anal Bioanal Chem	HCA
Becka, A	1993	97	6233	J Phys Chem	HCA
Bratkovsky, A	2003	67	115307	Phys Rev B	
Bumm, L	1999	121	8017	J Am Chem Soc	HCA
Bumm, L	1996	271	1705	Science	HCA
Byloos, M	1999	103	6554	J Phys Chem B	HCA
Cavalleri, O	1995	340	L960	Surf Sci	HCA
Chidsey, C	1990	112	4301	J Am Chem Soc	HCA
Creager, S	1999	121	1059	J Am Chem Soc	HCA
Cui, X	2002	106	8609	J Phys Chem B	HCA
Cui, X	2001	294	571	Science	HCA
Cyganik, P	2000	33	337	Electron Technol	HCA
Cyganik, P				Manuscript in prepar	
Dhirani, A	1996	118	3319	J Am Chem Soc	HCA
Di Ventra, M	2000	84	979	Phys Rev Lett	HCA
Edinger, K	1993	9	4	Langmuir	HCA
Emberly, E	2001	6423	235412	Phys Rev B	
Fan, F	2002	124	5550	J Am Chem Soc	HCA
Felgenhauer, T	2001	79	3323	Appl Phys Lett	HCA
Felgenhauer, T	2003	550	309	J Electroanal Chem	
Frey, S	2001	17	2408	Langmuir	HCA
Frey, S	2002	18	3142	Langmuir	HCA
Fuxen, C	2001	17	3689	Langmuir	HCA
Garg, N	2002	18	2717	Langmuir	HCA
Geyer, W	1999	75	2401	Appl Phys Lett	HCA
Gottschalck, J	2002	116	784	J Chem Phys	HCA
Haran, A	1997	268	475	Chem Phys Lett	HCA
Hayashi, T	2001	114	7615	J Chem Phys	HCA
Heister, K	2001	105	6888	J Phys Chem B	HCA
Ishida, T	1999	103	1686	J Phys Chem B	HCA
Ishida, T	2000	104	11680	J Phys Chem B	HCA
Ishida, T	2002	106	5886	J Phys Chem B	HCA
Jin, Q	1999	425	101	Surf Sci	HCA
Kang, J	2001	17	95	Langmuir	HCA
Kornilovitch, P	2001	6419	195413	Phys Rev B	
Laibinis, P	1991	113	7152	J Am Chem Soc	HCA
Lee, S	2001	17	7364	Langmuir	HCA
Leung, T	2000	458	34	Surf Sci	HCA
Long, Y	2002	524	62	J Electroanal Chem	
McDermott, C	1995	99	13257	J Phys Chem	HCA
Miller, A	2002	106	7636	J Phys Chem A	HCA
Naaman, R	1998	102	3658	J Phys Chem B	HCA
Nitzan, A	2001	52	681	Annu Rev Phys Chem	HCA
Noh, J	2001	17	7280	Langmuir	HCA
Poirier, G	1995	99	10966	J Phys Chem	HCA
Poirier, G	1997	13	2019	Langmuir	HCA
Rampi, M	2002	281	373	Chem Phys	HCA

Rong, H	2001	17	1582	Langmuir	HCA
Schreiber, F	2000	65	151	Prog Surf Sci	HCA
Schwartz, D	2001	52	107	Annu Rev Phys Chem	HCA
Sikes, H	2001	291	1519	Science	HCA
Sondag-Huethorst, J	1994	98	6826	J Phys Chem	HCA
Tao, Y	1997	13	4018	Langmuir	HCA
Tour, J	1995	117	9529	J Am Chem Soc	HCA
Ulman, A	2001	34	855	Acc Chem Res	HCA
Ulman, A	1996	96	1533	Chem Rev	HCA
Wold, D	2002	106	2813	J Phys Chem B	HCA
Wong, S	2000	485	135	J Electroanal Chem	HCA
Yang, G	2003	107	8746	J Phys Chem B	HCA
Zehner, R	1997	13	2973	Langmuir	HCA
Zehner, R	1999	15	1121	Langmuir	HCA
Zharnikov, M	2000	2	3359	Phys Chem Chem Phys	HCA

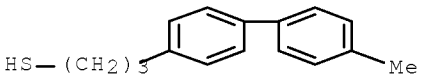
OS.CITING REF COUNT: 86 THERE ARE 86 CAPLUS RECORDS THAT CITE THIS RECORD (88 CITINGS)

L35 ANSWER 18 OF 19 HCA COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 137:285566 HCA Full-text
TITLE: Odd-even effects in the cyclic voltammetry of self-assembled monolayers of biphenyl based thiols
AUTHOR(S): Long, Yi-Tao; Rong, Hai-Tao; Buck, Manfred; Grunze, Michael
CORPORATE SOURCE: University of Heidelberg, INF 253, Lehrstuhl fur Angewandte Physikalische Chemie, Heidelberg, 69120, Germany
SOURCE: Journal of Electroanalytical Chemistry (2002), 524-525, 62-67
CODEN: JECHES
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

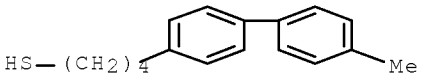
AB Monolayers of ω-(4'-methyl-biphenyl-4-yl)-alkanethiols (CH3-C6H4-C6H4-(CH2)m-SH, m=1-6, BPm) adsorbed on polycryst. gold were investigated by cyclic voltammetry. In sharp contrast to alkane thiols, the BPm monolayers show an electrochem. stability which alternates with the length of the alkane spacer. For m=even, reductive desorption takes place at potentials 83 mV more pos. compared with m=odd. This odd-even effect is detected only for native layers and is lost after the first voltammetric cycle due to incomplete readsorption. In addition to the desorption potential the charge associated with the desorption also exhibits an odd-even behavior. Beyond odd-even variations of intermol. interactions and the thiol coverage which affect capacitive and Faradaic contributions to the desorption peak, the influence of an m-dependent charge distribution at the sulfur | gold interface is discussed with respect to its influence on the Faradaic component and the assumption of a one electron transfer process in the reductive desorption of thiols.

IT 298704-21-9 298704-23-1, [1,1'-Biphenyl]-4-butanethiol, 4'-methyl- 298704-27-5, [1,1'-Biphenyl]-4-hexanethiol, 4'-methyl- 317834-22-3
(odd-even effects in cyclic voltammetry of self-assembled monolayers of biphenyl based thiols)

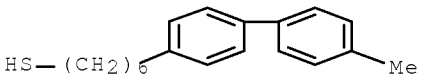
RN 298704-21-9 HCA
CN [1,1'-Biphenyl]-4-propanethiol, 4'-methyl- (CA INDEX NAME)



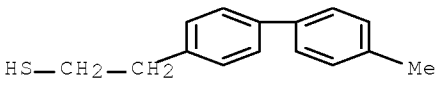
RN 298704-23-1 HCA
CN [1,1'-Biphenyl]-4-butanethiol, 4'-methyl- (CA INDEX NAME)



RN 298704-27-5 HCA
CN [1,1'-Biphenyl]-4-hexanethiol, 4'-methyl- (CA INDEX NAME)



RN 317834-22-3 HCA
CN [1,1'-Biphenyl]-4-ethanethiol, 4'-methyl- (CA INDEX NAME)



CC 72-2 (Electrochemistry)
Section cross-reference(s): 25, 66
ST self assembled monolayers biphenylthiols
gold electrode electrochem
IT Self-assembled monolayers
(odd-even effects in cyclic voltammetry of self-assembled monolayers of biphenyl based thiols)
IT Thiols, reactions
(odd-even effects in cyclic voltammetry of self-assembled monolayers of biphenyl based thiols)
IT 92-52-4, Biphenyl, reactions
(derivs.; odd-even effects in cyclic voltammetry of self-assembled monolayers of biphenyl based thiols)
IT 216754-61-9 298704-21-9 298704-23-1,
[1,1'-Biphenyl]-4-butanethiol, 4'-methyl- 298704-25-3,
[1,1'-Biphenyl]-4-pentanethiol, 4'-methyl- 298704-27-5,
[1,1'-Biphenyl]-4-hexanethiol, 4'-methyl- 317834-22-3
(odd-even effects in cyclic voltammetry of self-assembled monolayers of biphenyl based thiols)
RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File

Batchelder, D	1994	116	1050	J Am Chem Soc	HCA
Beardmore, K	1998	286	40	Chem Phys Lett	HCA
Byloos, M	1999	103	6554	J Phys Chem B	HCA
Byloos, M	2000	105	5900	J Phys Chem B	
Chidsey, C	1991	251	919	Science	HCA
Cooper, E	1999	15	1024	Langmuir	HCA
Creager, S	1999	121	1059	J Am Chem Soc	HCA
Cyganik, P	2000	33	337	Electron Technol	HCA
David, C	1996	30	57	Microelectr Eng	HCA
Doescher, M	2001	105	105	J Phys Chem B	HCA
Felgenhauer, T	2001	79	3323	Appl Phys Lett	HCA
Finklea, H	1996	19	109	Electroanalytical ch	HCA
Finklea, H	2000			Encyclopedia of Anal	
Geyer, W	1999	75	2401	Appl Phys Lett	HCA
Gittins, D	2000	408	67	Nature	HCA
Heister, K	2001	105	6888	J Phys Chem B	HCA
Huang, J	1994	10	626	Langmuir	HCA
Imabayashi, S	1997	428	33	J Electroanal Chem	HCA
Kawaguchi, T	2000	16	9830	Langmuir	HCA
Krysinski, P	1994	10	4286	Langmuir	HCA
Lenk, T	1994	10	4610	Langmuir	HCA
Lercel, M	1996	68	1504	Appl Phys Lett	HCA
Miller, C	1991	95	5225	J Phys Chem	HCA
Miller, C	1991	95	877	J Phys Chem	HCA
Rong, H	2001	17	1582	Langmuir	HCA
Sachs, S	1997	119	10563	J Am Chem Soc	HCA
Schneider, T	1993	115	12391	J Am Chem Soc	HCA
Schultze, J	1973	44	63	J Electroanal Chem	HCA
Sek, S	2000	104	5399	J Phys Chem B	HCA
Sellers, H	1993	115	9389	J Am Chem Soc	HCA
Sikes, H	2001	291	1519	Science	HCA
Slowinski, K	1996	118	4709	J Am Chem Soc	HCA
Sondag-Huethorst, J	1994	64	285	Appl Phys Lett	HCA
Tao, Y	1997	13	4018	Langmuir	HCA
Ulman, A	1996	96	1533	Chem Rev	HCA
Widrig, C	1991	310	335	J Electroanal Chem	HCA
Wong, S	2000	485	135	J Electroanal Chem	HCA
Xia, Y	1998	37	550	Angew Chem Int Ed	HCA
Yang, D	1997	101	1158	J Phys Chem B	HCA
Yang, D	1997	13	243	Langmuir	HCA
Zharnikov, M	2000	2	3359	Phys Chem Chem Phys	HCA
Zhong, C	1997	425	147	J Electroanal Chem	HCA

OS.CITING REF COUNT: 10 THERE ARE 10 CAPLUS RECORDS THAT CITE THIS RECORD (10 CITINGS)

L35 ANSWER 19 OF 19 HCA COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 134:243055 HCA Full-text
TITLE: On the Importance of the Headgroup Substrate Bond in Thiol Monolayers: A Study of Biphenyl-Based Thiols on Gold and Silver
AUTHOR(S): Rong, Hai-Tao; Frey, Stefan; Yang, Yong-Jie; Zharnikov, Michael; Buck, Manfred; Wuehn, Mario; Woell, Christof; Helmchen, Guenter
CORPORATE SOURCE: Lehrstuhl fuer Angewandte Physikalische Chemie INF 253, Heidelberg, 69120, Germany
SOURCE: Langmuir (2001), 17(5), 1582-1593
CODEN: LANGD5; ISSN: 0743-7463
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal

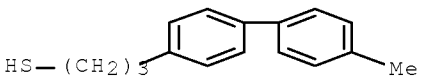
LANGUAGE: English

AB Self-assembled monolayers of a series of ω-(4'-methyl-biphenyl-4-yl)-alkanethiols (CH3-C6H4-C6H4-(CH2)m-SH, m = 1-6) formed on polycryst. gold and silver surfaces were characterized in detail by contact angle measurements, optical ellipsometry, XPS, reflection absorption IR spectroscopy (IRRAS), and near-edge X-ray absorption fine structure spectroscopy (NEXAFS). The orientation of the biphenyl moiety, determined by combining the results from IRRAS and NEXAFS, exhibits a pronounced dependence on the number of methylene groups. Similar to n-alkanethiols an odd-even effect is observed which on silver is opposite to that on gold. For m = odd on gold and m = even on silver the arrangement of the aromatic moieties agrees well with the bulk structure of biphenyl, and the bonding of the thiols to the substrate is in agreement with an sp3 hybridization of the sulfur on gold and sp on silver, resp. In the opposite case of m = even on gold and m = odd on silver, the biphenyl moieties adopt a significantly more canted orientation which, as a consequence, results in a lower coverage. The odd-even behavior of the coverage is in sharp contrast to that seen for n-alkanethiols. The expts. provide evidence that a significant driving force exists to pertain the sp3 and sp hybridization of sulfur on gold and silver, resp. In the case of gold substrates the exptl. results are in conflict with available bending potentials derived from ab initio calcns.

IT 298704-21-9P 298704-23-1P 298704-27-5P
317834-22-3P 330442-96-1P
(importance of headgroup substrate bond in biphenyl-based thiol monolayers on gold and silver)

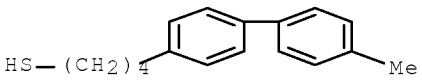
RN 298704-21-9 HCA

CN [1,1'-Biphenyl]-4-propanethiol, 4'-methyl- (CA INDEX NAME)



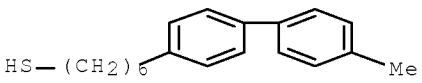
RN 298704-23-1 HCA

CN [1,1'-Biphenyl]-4-butanethiol, 4'-methyl- (CA INDEX NAME)



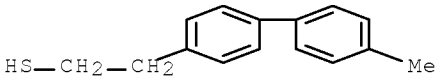
RN 298704-27-5 HCA

CN [1,1'-Biphenyl]-4-hexanethiol, 4'-methyl- (CA INDEX NAME)

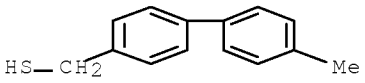


RN 317834-22-3 HCA

CN [1,1'-Biphenyl]-4-ethanethiol, 4'-methyl- (CA INDEX NAME)



RN 330442-96-1 HCA
CN [1,1'-Biphenyl]-4-methanethiol, 4'-methyl- (CA INDEX NAME)



CC 66-3 (Surface Chemistry and Colloids)
Section cross-reference(s): 73
ST self assembled monolayer
methylbiphenylalkanethiol gold silver chemisorption hybridization
IT Bending potential
Chemisorption
Contact angle
Electron hybridization
IR spectra
Molecular orientation
NEXAFS spectra
Packing (particle)
Self-assembled monolayers
Surface reaction
Thickness
(importance of headgroup substrate bond in biphenyl-based thiol monolayers on gold and silver)
IT 298704-21-9P 298704-23-1P 298704-25-3P
298704-27-5P 317834-22-3P 330442-96-1P
(importance of headgroup substrate bond in biphenyl-based thiol monolayers on gold and silver)
RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Arnold, R				Submitted	
Bain, C	1989	111	321	J Am Chem Soc	HCA
Baudour, B	1991	B47	935	Acta Crystallogr	
Beardmore, K	1998	286	40	Chem Phys Lett	HCA
Beardmore, K	1997	84	317	Synth Met	HCA
Bernstorff, S	1989	60	2097	Rev Sci Instrum	HCA
Bryant, M	1991	113	8284	J Am Chem Soc	HCA
Buck, M				Unpublished	
Campbell, I	1997	71	3528	Appl Phys Lett	HCA
Casalnuovo, A	1990	112	4324	J Am Chem Soc	HCA
Chabal, Y	1988	8	211	Surf Sci Rep	HCA
Chang, S	1994	116	6792	J Am Chem Soc	HCA
Charbonneau, G	1976	32	1420	Acta Crystallogr	
Dannenberger, O	1997	307	183	Thin Solid Films	HCA
Debe, M	1984	55	3354	J Appl Phys	HCA
Dhirani, A	1996	118	3319	J Am Chem Soc	HCA
Dubois, L	1992	43	437	Annu Rev Phys Chem	HCA

Elsom, L		6	488	Org Synth Coll	
Evans, S	1991	113	4121	J Am Chem Soc	HCA
Fenter, P	1994	266	1216	Science	HCA
Fenter, P	1998	413	213	Surf Sci	
Finklea, H	1996	19	109	Electroanal Chem	HCA
Floriano, P	2000	321	175	Chem Phys Lett	HCA
Forel, M	1960	50	1228	J Opt Soc Am	HCA
Frey, S				In preparation	
Frey, S	2001	40	81	Isr J Chem	
Frey, S				Submitted for public	
Garg, N	1998	14	3815	Langmuir	HCA
Gronbeck, H	2000	122	3839	J Am Chem Soc	
Haeussling, L	1991	7	1837	Langmuir	HCA
Han, S	1999	15	1579	Langmuir	HCA
Harris, A	1990	64	2086	Phys Rev Lett	HCA
Heister, K				Submitted for public	
Himmel, H	1998	120	12069	J Am Chem Soc	HCA
Jager, B	1997	202	263	Z Physikal Chem	HCA
Jung, H	1999	15	1147	Langmuir	HCA
Kang, J	1999	15	2095	Langmuir	HCA
Kitaigorodskii, I	1961			Organic Chemical Cry	
Laibinis, P	1991	113	7152	J Am Chem Soc	HCA
Laibinis, P	1995	99	7663	J Phys Chem	HCA
Leung, T	2000	458	34	Surf Sci	HCA
Li, T	1998	102	2935	J Phys Chem B	HCA
Lin, P	1999	15	6825	Langmuir	HCA
Lin-Vien, D	1991			The Handbook of Infr	
Mar, W	1994	10	188	Langmuir	HCA
Micovic, V	1953	18	541	J Org Chem	
Mrksich, M	1995	13	228	Trends Biotechnol	HCA
Parikh, A	1992	96	927	J Chem Phys	HCA
Pertsin, A	1994	10	3668	Langmuir	HCA
Poirier, G	1997	97	1117	Chem Rev	HCA
Reese, S	1998	102	9820	J Phys Chem B	HCA
Roeges, N	1994			A Guide to the Compl	
Sabatani, E	1993	9	2974	Langmuir	HCA
Sachs, S	1997	119	10563	J Am Chem Soc	HCA
Schierbaum, K	1994	265	1413	Science	HCA
Schreiber, F	2000	65	151	Prog Surf Sci	HCA
Sean, M	1995	60	2411	J Org Chem	
Sellers, H	1993	115	9389	J Am Chem Soc	HCA
Shigeru, S	1992	65	345	Bull Chem Soc Jpn	
Socrates, G	1994			Infrared Characteris	
Sprik, M	1994	10	4116	Langmuir	HCA
Stohr, J	1992			NEXAFS spectroscopy	
Stohr, J	1987	36	7891	Phys Rev B	HCA
Tao, Y	1993	115	9547	J Am Chem Soc	HCA
Tao, Y	1997	13	4018	Langmuir	HCA
Tao, Y	1994	244	810	Thin Solid Films	HCA
Thome, J	1998	14	7435	Langmuir	HCA
Tour, J	1995	117	9529	J Am Chem Soc	HCA
Trotter, J	1961	14	1135	Acta Crystallogr	HCA
Ulman, A	1996	96	1533	Chem Rev	HCA
Ulman, A	1998	24		Self-Assembled Monol	
Varsanyi, G	1974			Assignments for Vibr	
Walczak, M	1991	113	2370	J Am Chem Soc	HCA
Weiss, K	1999	111	6834	J Chem Phys	HCA
Wirde, M	1997	131	245	Nucl Instrum Methods	HCA
Xia, Y	1998	37	551	Angew Chem, Int Ed	
Yang, G	2000	104	9059	J Phys Chem B	HCA

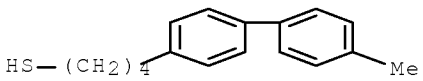
Zharnikov, M |2000 |16 |2697 |Langmuir |HCA
Zharnikov, M |1999 |1 |3163 |Phys Chem Chem Phys |HCA
Zharnikov, M |2000 |2 |3359 |Phys Chem Chem Phys |HCA
OS.CITING REF COUNT: 147 THERE ARE 147 CAPLUS RECORDS THAT CITE THIS RECORD (151 CITINGS)

=> D L37 1-14 IBIB ABS HITSTR HITIND RETABLE

L37 ANSWER 1 OF 14 HCA COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 144:440667 HCA Full-text
TITLE: STM Study of Mixed Alkanethiol/Biphenylthiol Self-Assembled Monolayers on Au(111)
AUTHOR(S): Luessem, Bjoern; Mueller-Meskamp, Lars; Karthaeuser, Silvia; Waser, Rainer; Homberger, Melanie; Simon, Ulrich
CORPORATE SOURCE: Institute for Solid State Research and Center of Nanoelectronic Systems for Information Technology, Research Centre Juelich GmbH, Juelich, 52425, Germany
SOURCE: Langmuir (2006), 22(7), 3021-3027
CODEN: LANGD5; ISSN: 0743-7463
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A method is presented for depositing mixed self- assembled monolayers (SAMs) of dodecanethiol (C12) and 4'-Me-1,1'-biphenyl-4-butane (Me-C6H4-C6H4(CH2)4-SH, BP4) by insertion of BP4 into a closely packed SAM of dodecanethiol on Au(111). Insertion takes place at defect sites such as domain boundaries or etch pits in the Au surface that are characteristic of C12 monolayers on Au. With a lower probability, insertion also occurs beside defect sites inside dodecanethiol domains. Insertion at defect sites results in domains of BP4, whereas insertion into C12 domains leads to isolated BP4 mols. The isolated BP4 mols. are shown not to move at room temperature By comparing the apparent height of the isolated BP4 mols. and BP4 domains, probably the isolated mols. have the same conformation as in the full-coverage phase. A simple 2-layer model is proposed to characterize the current transport through BP4. The decay constant β for the phenylene groups is deduced from the apparent STM heights of the inserted BP4 islands compared to the STM heights of the C12 closely packed monolayers.

IT 298704-23-1D, gold-bound
(STM study of mixed alkanethiol/biphenylthiol self-assembled monolayers on Au surface)
RN 298704-23-1 HCA
CN [1,1'-Biphenyl]-4-butanethiol, 4'-methyl- (CA INDEX NAME)



CC 66-4 (Surface Chemistry and Colloids)
ST STM alkanethiol biphenylthiol mixed self assembled monolayer gold
IT Self-assembled monolayers
(STM study of mixed alkanethiol/biphenylthiol self-assembled monolayers on Au surface)

IT Thiols, properties
(gold-bound; STM study of mixed alkanethiol/biphenylthiol self-assembled monolayers on Au surface)
IT 112-55-0D, 1-Dodecanethiol, gold-bound 7440-57-5D, Gold, thiolated 298704-23-1D, gold-bound
(STM study of mixed alkanethiol/biphenylthiol self-assembled monolayers on Au surface)
RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Arte, S	1995	11	3882	Langmuir	
Azzam, W	2003	19	8262	Langmuir	HCA
Bain, C	1988	110	6560	J Am Chem Soc	HCA
Bain, C	1989	111	7164	J Am Chem Soc	HCA
Bumm, L	1999	103	8122	J Phys Chem B	HCA
Bumm, L	1996	271	1705	Science	HCA
Camillone, N	1993	98	3503	J Chem Phys	HCA
Chen, S	2001	105	2975	J Phys Chem B	HCA
Chen, S	2000	16	9287	Langmuir	HCA
Cygan, M	1998	120	2721	J Am Chem Soc	HCA
Delamarche, E	1994	10	2869	Langmuir	HCA
Dunbar, T	2000	104	4880	J Phys Chem B	HCA
Fenter, P	1997	106	1600	J Chem Phys	HCA
Figgeri, A	2000	16	7757	Langmuir	
Heister, K	1999	15	5440	Langmuir	HCA
Holmlin, R	2001	113	2378	Angew Chem, Int Ed	
Huisman, B	1999	38	2248	Angew Chem, Int Ed	HCA
Ishida, T	2000	104	11680	J Phys Chem B	HCA
Ishida, T	2000	18	1437	J Vac Sci Technol, A	HCA
Ishida, T	1997	13	3261	Langmuir	HCA
Jaschke, M	1996	100	2290	J Phys Chem	HCA
Kaun, C	2003	3	1521	Nano Lett	HCA
Kumar, A	1993	63	2002	Appl Phys Lett	HCA
Li, L	2003	19	3266	Langmuir	HCA
Love, J	2005	105	1103	Chem Rev	HCA
Lussem, B	2005	249	197	Appl Surf Sci	
Lussem, B	2005	21	5256	Langmuir	MEDLINE
Magoga, M	1997	56	4722	Phys Rev B	HCA
Menozzi, E	2004	10	2199	Chem-Eur J	HCA
Morgenthaler, S	2003	19	10459	Langmuir	HCA
Moth-Poulsen, K	2005	5	783	Nano Lett	HCA
Muller-Meskamp, L	2005	109	11424	J Phys Chem B	
Nakasa, A	2000	157	326	Appl Surf Sci	HCA
Nelles, G	1998	66	S1261	Appl Phys A	HCA
Nelles, G	1998	14	808	Langmuir	HCA
Poirier, G	1994	10	2853	Langmuir	HCA
Poirier, G	1997	13	2019	Langmuir	HCA
Prime, K	1991	252	1164	Science	HCA
Rong, H	2001	17	1582	Langmuir	HCA
Scherer, J	1997	13	7045	Langmuir	HCA
Schonherr, H	1996	12	3891	Langmuir	
Schonherr, H	1996	12	3898	Langmuir	
Schreiber, F	2000	65	151	Prog Surf Sci	HCA
Selzer, Y	2002	106	10432	J Phys Chem B	HCA
Shevade, A	2001	17	7566	Langmuir	HCA
Slowinski, K	1999	121	7257	J Am Chem Soc	HCA
Smith, R	2001	105	1119	J Phys Chem B	HCA
Szuchmacher, B	2005	127	10010	J Am Chem Soc	
Takami, T	1995	11	3876	Langmuir	HCA

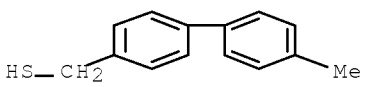
Wakamatsu, S	2002	198	785	Colloids Surf, A	
Wakamatsu, S	2002	41	4998	Jpn J Appl Phys	HCA
Wakamatsu, S	2003	97	19	Ultramicroscopy	HCA
Wang, W	2003	68	035416	Phys Rev B	
Wold, D	2000	122	2970	J Am Chem Soc	HCA
Wold, D	2002	106	2813	J Phys Chem B	HCA
Yamada, R	2005	21	4254	Langmuir	HCA
Yasutake, Y	2005	5	1057	Nano Lett	HCA
Zhang, L	2002	117	7342	J Chem Phys	HCA

OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)

L37 ANSWER 2 OF 14 HCA COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 142:417627 HCA Full-text
TITLE: Modification and Stability of Aromatic Self-Assembled Monolayers upon Irradiation with Energetic Particles
AUTHOR(S): Cyganik, P.; Vandeweert, E.; Postawa, Z.; Bastiaansen, J.; Vervaecke, F.; Lievens, P.; Silverans, R. E.; Winograd, N.
CORPORATE SOURCE: Smoluchowski Institute of Physics, Jagiellonian University, Krakow, PL 30-059, Pol.
SOURCE: Journal of Physical Chemistry B (2005), 109(11), 5085-5094
CODEN: JPCBFK; ISSN: 1520-6106
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB We have studied ion and electron irradiation of self- assembled monolayers (SAMs) of 2-(4'-methyl-biphenyl-4yl)-ethanethiol (BP2, CH3-C6H4C6H4CH2CH2-SH), Ph mercaptan (PEM, C6H5CH2CH2-SH), and 4'-methyl-biphenyl-4-thiol (BP0, CH3-C6H4C6H4-SH) deposited on Au(111) substrates. Desorption of neutral particles from PEM/Au and BP2/Au was investigated using laser ionization in combination with mass spectrometry. The ion-induced damage of both BP2 and PEM SAMs is very efficient and interaction with a single ion leads to the modification of tens of mols. This feature is the result of a desorption process caused by a chemical reaction initiated by an ion impact. Both for ions and electrons, expts. indicate that the possibility for scission of the Au-S bond strongly depends on the chemical nature of the SAM system. We attribute the possible origin of this effect to the orientation of the Au-S-C angle or adsorption sites of mols. The anal. of electron-irradiated PEM/Au and BP2/Au, using ion-initiated laser probing, enabled measurements of the cross section for the electron-induced damage of the intact mol. or specific fragment. Anal. of electron-irradiated BP0/Au by using time-of-flight secondary ion mass spectrometry (TOF-SIMS) provides direct evidence for the quasi-polymerization process induced by electron irradiation

IT 330442-96-1D, gold bound
(SAM; stability of aromatic SAM on gold upon ion and electron irradiations)
RN 330442-96-1 HCA
CN [1,1'-Biphenyl]-4-methanethiol, 4'-methyl- (CA INDEX NAME)



CC 66-3 (Surface Chemistry and Colloids)

ST stability arom SAM gold ion electron irradn energetic particle

IT Electron beams
(irradiation; stability of aromatic SAM on gold upon ion and electron irradiations)

IT Self-assembled monolayers
Stability
(stability of aromatic SAM on gold upon ion and electron irradiations)

IT 108-98-5D, Phenyl mercaptan, gold bound 200958-14-1D, gold bound 330442-96-1D, gold bound
(SAM; stability of aromatic SAM on gold upon ion and electron irradiations)

IT 7440-57-5D, Gold, thiolated
(stability of aromatic SAM on gold upon ion and electron irradiations)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Ada, E	1995	13	2189	J Vac Sci Technol, B	HCA
Avouris, P	1984	88	837	J Phys Chem	HCA
Azzam, W	2003	19	8262	Langmuir	HCA
Beardmore, K	1998	40	286	Chem Phys Lett	
Bratkowsky, A	2003	67	115307	Phys Rev B	
Braun, R	1998	12	1246	Rapid Commun Mass Sp	HCA
Buckel, F	2000	12	901	Adv Mater	HCA
Bumm, L	1996	271	1705	Science	HCA
Chatterjee, R	1999	103	151	J Phys Chem B	HCA
Chenakin, S	1999	421	337	Surf Sci	HCA
Cyganik, P				In preparation	
Cyganik, P	2004	126	5960	J Am Chem Soc	HCA
Cyganik, P	2004	108	4989	J Phys Chem B	HCA
Cyganik, P	1999	148	137	Nucl Instrum Methods	HCA
Donhauser, Z	2001	292	2303	Science	HCA
Felgenhauer, T	2001	79	3323	Appl Phys Lett	HCA
Fenter, A	1994	266	1216	Science	
Franzen, S	2003	381	315	Chem Phys Lett	HCA
Frey, S	2002	18	3142	Langmuir	HCA
Frisbi, C	1992	114	7142	J Am Chem Soc	
Geyer, W	1999	75	2401	Appl Phys Lett	HCA
Golzhauser, A	2000	18	3414	J Vac Sci Technol, B	HCA
Gottschalck, J	2002	116	784	J Chem Phys	HCA
Hayashi, T	2001	114	7615	J Chem Phys	HCA
Heistler, K	2001	105	6888	J Phys Chem B	
Hild, R	1998	14	342	Langmuir	HCA
Huels, M	2003	118	11168	J Phys Chem	HCA
Hutt, D	1999	9	923	J Mater Chem	HCA
Ishida, T	1999	103	1686	J Phys Chem B	HCA
Ishida, T	2002	18	83	Langmuir	HCA
Joyce, S	1992	68	2790	Phys Rev Lett	HCA
Kluth, G	1999	59	10449	Phys Rev B	
Kondoh, H	1998	102	2367	J Phys Chem B	HCA
Kondoh, H	2003	90	066102	Phys Rev Lett	MEDLINE
Kuller, A	2003	82	3776	Appl Phys Lett	HCA
Laibinis, P	1992	114	9022	J Am Chem Soc	HCA
Laibinis, P	1992	96	5097	J Phys Chem	HCA
Lee, T	1991	63	821	Pure Appl Chem	HCA
Lercel, M	1996	68	1504	Appl Phys Lett	HCA
Lercel, M	1996	14	4085	J Vac Sci Technol, B	HCA
Li, C	2003	82	645	Appl Phys Lett	HCA

Muller, H	1998	102	7959	J Phys Chem B	
Olsen, C	1998	108	3750	J Chem Phys	HCA
Postawa, Z	2001	182	148	Nucl Instrum Methods	HCA
Rading, D	1998	16	3449	J Vac Sci Technol, A	HCA
Rading, D	2000	18	312	J Vac Sci Technol, A	HCA
Reed, M	2001	78	3735	Appl Phys Lett	HCA
Riederer, D	1997	119	8089	J Am Chem Soc	HCA
Rong, H	2001	17	1582	Langmuir	HCA
Rowntree, P	1996	100	4546	J Phys Chem	HCA
Sagiv, J	1980	102	92	J Am Chem Soc	HCA
Sellers, H	1993	115	9389	J Am Chem Soc	HCA
Seshadri, K	1996	100	15900	J Phys Chem	HCA
Sheen, C	1992	114	1514	J Am Chem Soc	HCA
Stewart, K	1986	57	1381	Surf Sci	HCA
Sun, S	2002	124	2414	J Am Chem Soc	HCA
Szapiro, B	1989	65	3713	J Appl Phys	HCA
Tao, Y	1997	13	4018	Langmuir	HCA
Tarlov, M	1992	8	1398	Langmuir	HCA
Taylor, R	1995	143	225	Int J Mass Spectrom	HCA
Tour, J	1995	117	9529	J Am Chem Soc	HCA
Ulman, A	1996	96	1533	Chem Rev	HCA
Ulman, A	1989	11	205	J Mater Ed	HCA
Vandamme, N	2001	72	S177	Appl Phys A	
Vandeweert, E	2003	82	1114	Appl Phys Lett	HCA
Vandeweert, E	2001	64	195417	Phys Rev B	
Vandeweert, E	2000	164-1	820	Z Nucl Instrum Metho	HCA
Yang, G	2003	107	8746	J Phys Chem B	HCA
Yourdshahyan, Y	2001	63	081405	Phys Rev B	
Zalm, P	1984	39	61	Philips J Res	HCA
Zehner, R	1997	13	2973	Langmuir	HCA
Zharnikov, M	2000	16	2697	Langmuir	HCA
Zharnikov, M	1999	1	3163	Phys Chem Chem Phys	HCA

OS.CITING REF COUNT: 9 THERE ARE 9 CAPLUS RECORDS THAT CITE THIS RECORD (10 CITINGS)

L37 ANSWER 3 OF 14 HCA COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 139:342211 HCA Full-text
TITLE: Pronounced Odd-Even Changes in the Molecular Arrangement and Packing Density of Biphenyl-Based Thiol SAMs: A Combined STM and LEED Study
AUTHOR(S): Azzam, W.; Cyganik, P.; Witte, G.; Buck, M.; Woell, Ch.
CORPORATE SOURCE: Lehrstuhl fuer Physikalische Chemie I, Bochum, 44801, Germany
SOURCE: Langmuir (2003), 19(20), 8262-8270
CODEN: LANGD5; ISSN: 0743-7463
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

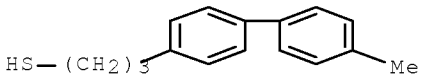
AB Self-assembled monolayers (SAMs) of ω-(4'-methylbiphenyl-4-yl) alkanethiols CH3(C6H4)2(CH2)nSH (BPn, n = 3 and 4) on Au(111) substrates were studied using scanning tunneling microscopy (STM) and LEED (LEED). Preparation at elevated temperature results in highly ordered layers with large domains. Whereas the (2√3 + √3) structure of the BP3 SAMs is similar to that reported previously for other aromatic thiols, SAMs made from BP4 exhibit a very different structure. A (5√3 + 3)rect unit cell containing 8 mols. is found which corresponds to a packing d. reduced by 25% compared to that of BP3. The odd-even effect observed in the molecularly resolved STM images of BP3 and BP4,

therefore, confirms the pronounced influence of the spacer chain on the structure of these biphenyl-based SAMs.

IT 298704-21-9D, gold bound 298704-23-1D, gold bound
(SAM; odd-even change in mol. arrangement and packing d. of biphenyl-based thiol SAMs)

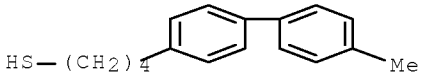
RN 298704-21-9 HCA

CN [1,1'-Biphenyl]-4-propanethiol, 4'-methyl- (CA INDEX NAME)



RN 298704-23-1 HCA

CN [1,1'-Biphenyl]-4-butanethiol, 4'-methyl- (CA INDEX NAME)



CC 66-3 (Surface Chemistry and Colloids)

ST odd even mol arrangement packing biphenyl thiol SAM

IT Self-assembled monolayers
(odd-even change in mol. arrangement and packing d. of biphenyl-based thiol SAMs)

IT Molecular structure
Surface structure
(of biphenyl-based thiol SAMs)

IT 7440-57-5D, Gold, thiolated 298704-21-9D, gold bound
298704-23-1D, gold bound
(SAM; odd-even change in mol. arrangement and packing d. of biphenyl-based thiol SAMs)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Azzam, W				Langmuir, submitted	
Beardomre, K	1998	40	286	Chem Phys Lett	
Buckel, F	2000	12	901	Adv Mater	HCA
Bumm, L	1999	121	8017	J Am Chem Soc	HCA
Bumm, L	1996	271	1705	Science	HCA
Cavalleri, O	1996	284	392	Thin Solid Films	
Dhirani, A	1996	118	3319	J Am Chem Soc	HCA
Dubois, L	1992	43	437	Annu Rev Phys Chem	HCA
Eck, W	2000	12	805	Adv Mater	HCA
Edinger, K	1997	101	1811	Ber Bunsen-Ges Phys	HCA
Edinger, K	1993	9	4	Langmuir	HCA
Felgenhauer, T				J Electroanal Chem,	
Fenter, P	1994	266	1216	Science	HCA
Frey, S	2002	18	3142	Langmuir	HCA
Fuxen, C	2001	17	3689	Langmuir	HCA
Gottschalck, J	2002	116	784	J Chem Phys	HCA
Hayashi, T	2001	114	7615	J Chem Phys	HCA
Heister, K	2001	105	6888	J Phys Chem B	HCA

Ishida, T	1999	103	1686	J Phys Chem B	HCA
Ishida, T	2002	18	83	Langmuir	HCA
Jin, Q	1999	425	101	Surf Sci	HCA
Kang, J	1999	15	5555	Langmuir	HCA
Kang, J	2001	17	95	Langmuir	HCA
Kluth, G	1999	59	10449	Phys Rev B	
Kondoh, H	1999	111	1175	J Chem Phys	HCA
Kondoh, H	2003	90	066102	Phys Rev Lett	MEDLINE
Loepp, G	1999	15	3767	Langmuir	HCA
Noh, J	2001	17	7280	Langmuir	HCA
Noh, J	2002	18	1953	Langmuir	HCA
Poirier, G	1997	97	1117	Chem Rev	HCA
Rong, H	2001	17	1582	Langmuir	HCA
Sabatani, E	1993	9	2974	Langmuir	HCA
Schreiber, F	2000	65	151	Prog Surf Sci	HCA
Schwartz, D	2001	52	107	Annu Rev Phys Chem	HCA
Tour, J	1995	117	9529	J Am Chem Soc	HCA
Ulman, A	1991			An Introduction to U	
Ulman, A	1996	96	1533	Chem Rev	HCA
Ulman, A	1995	20		Organic Thin Films a	HCA
Vandeweert, E	2003	82	1114	Appl Phys Lett	HCA
Ventra, M	2000	84	979	Phys Rev Lett	
Yang, G	2000	104	9059	J Phys Chem B	HCA
Yourdshahyan, Y	2001	63	081405	Phys Rev	
Zehner, R	1997	13	2973	Langmuir	HCA
Zharnikov, M	2000	2	3359	Phys Chem Chem Phys	HCA

OS.CITING REF COUNT: 92 THERE ARE 92 CAPLUS RECORDS THAT CITE THIS RECORD (92 CITINGS)

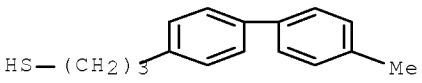
L37 ANSWER 4 OF 14 HCA COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 139:313583 HCA Full-text
TITLE: Electrochemical and exchange studies of self-assembled monolayers of biphenyl based thiols on gold
AUTHOR(S): Felgenhauer, T.; Rong, H.-T.; Buck, M.
CORPORATE SOURCE: Lehrstuhl fur Angewandte Physikalische Chemie, Heidelberg, 69120, Germany
SOURCE: Journal of Electroanalytical Chemistry (2003), 550-551, 309-319
CODEN: JECHES
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Of self-assembled monolayers of ω-(4'-methyl-biphenyl-4-yl)-alkanethiols (CH3-C6H4-C6H4-(CH2)n-SH, n=0-6) adsorbed on polycryst. gold were investigated. For n=1-6 the reciprocal capacity exhibits a linear dependence on the length of the alkane spacer. Its change of 0.054±0.0036 cm2 μF-1 per CH2 group and the calculated dielec. constant of .vepsiln.=2.5 agrees well with the values of n-alkane thiols. .vepsiln. Of the aromatic tail group is around 5 which is substantially larger than the bulk value of biphenyl. Measurements of the charge transfer rate yield an exponential dependence on the number of methylene units but reveal significant differences from alkanethiols. Transfer rates are more than a factor of 100 larger than those for alkane thiols of comparable length and the tunneling constant of 1.48±0.15 A-1 is higher compared to the value of about 1 A-1 for pure alkane thiols. In contrast to the film structure which alternates with the number of CH2 units, no odd-even-effect is observed either for the capacity or for the charge transfer rate. However, the structural differences are reflected in the exchange kinetics. Exposure of the biphenyl monolayers to a hexadecane thiol solution reveals a significant dependence of the exchange rate on n. SAMs with n=even are

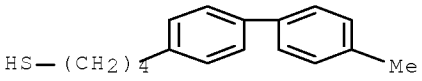
displaced more easily compared to n=odd with differences being largest for shorter spacer chains.

IT 298704-21-9, [1,1'-Biphenyl]-4-propanethiol, 4'-methyl-
298704-23-1, [1,1'-Biphenyl]-4-butanethiol, 4'-methyl-
298704-27-5, [1,1'-Biphenyl]-4-hexanethiol, 4'-methyl-
317834-22-3, [1,1'-Biphenyl]-4-ethanethiol, 4'-methyl-
330442-96-1, [1,1'-Biphenyl]-4-methanethiol, 4'-methyl-
(capacitance and charge transfer rates of self-assembled monolayers of biphenyl based thiols on gold)

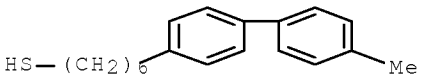
RN 298704-21-9 HCA
CN [1,1'-Biphenyl]-4-propanethiol, 4'-methyl- (CA INDEX NAME)



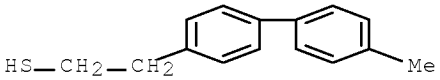
RN 298704-23-1 HCA
CN [1,1'-Biphenyl]-4-butanethiol, 4'-methyl- (CA INDEX NAME)



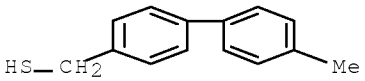
RN 298704-27-5 HCA
CN [1,1'-Biphenyl]-4-hexanethiol, 4'-methyl- (CA INDEX NAME)



RN 317834-22-3 HCA
CN [1,1'-Biphenyl]-4-ethanethiol, 4'-methyl- (CA INDEX NAME)



RN 330442-96-1 HCA
CN [1,1'-Biphenyl]-4-methanethiol, 4'-methyl- (CA INDEX NAME)



CC 72-2 (Electrochemistry)
Section cross-reference(s): 66, 73, 76
ST self assembled monolayers alkanethiols gold capacitance charge transfer
IT Thiols, properties
(biphenyl based; capacitance and charge transfer rates of self-assembled monolayers of biphenyl based thiols on gold)
IT Electric potential
(effect on electrons tunneling through self-assembled monolayers of biphenyl based thiols on gold electrode in KCl solution)
IT Self-assembled monolayers
(electrochem. and exchange studies of self-assembled monolayers of biphenyl based thiols on gold)
IT Tunneling
(of electrons through self-assembled monolayers of biphenyl based thiols on gold electrode in KCl solution)
IT Cyclic voltammetry
(of gold electrode with self-assembled monolayers of biphenyl based thiols in KCl solution)
IT Electric capacitance
(of self-assembled monolayers of biphenyl based thiols on gold)
IT IR spectra
(of self-assembled monolayers of biphenyl based thiols on gold electrode in KCl solution)
IT Electric current-potential relationship
(of self-assembled monolayers of biphenyl based thiols on gold in KCl solution)
IT Electron transfer
(through self-assembled monolayers of biphenyl based thiols on gold)
IT 200958-14-1 298704-21-9, [1,1'-Biphenyl]-4-propanethiol, 4'-methyl- 298704-23-1, [1,1'-Biphenyl]-4-butanethiol, 4'-methyl- 298704-25-3, [1,1'-Biphenyl]-4-pentanethiol, 4'-methyl- 298704-27-5, [1,1'-Biphenyl]-4-hexanethiol, 4'-methyl- 317834-22-3, [1,1'-Biphenyl]-4-ethanethiol, 4'-methyl- 330442-96-1, [1,1'-Biphenyl]-4-methanethiol, 4'-methyl-
(capacitance and charge transfer rates of self-assembled monolayers of biphenyl based thiols on gold)
IT 7447-40-7, Potassium chloride, uses
(current-potential relationship of self-assembled monolayers of biphenyl based thiols on gold in KCl solution)
IT 7440-57-5, Gold, uses
(electrochem. and exchange studies of self-assembled monolayers of biphenyl based thiols on)
RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Ada, E	1995	13	2189	J Vac Sci Technol A	HCA
Bain, C	1989	111	321	J Am Chem Soc	HCA
Becka, A	1992	96	2657	J Phys Chem	HCA
Bumm, L	1999	103	8122	J Phys Chem B	HCA
Chaliapakul, O	1993	9	884	Langmuir	
Chidsey, C	1990	112	4301	J Am Chem Soc	HCA

Creager, S	1999	121	1059	J Am Chem Soc	HCA
Cui, X	2002	13	5	Nanotechnology	HCA
Cui, X	2001	294	571	Science	HCA
Cygan, M	1998	120	2721	J Am Chem Soc	HCA
Cyganik, P	2000	33	337	Electron Technol	HCA
Dressick, W	2001	78	676	Appl Phys Lett	HCA
Dulcey, C	1996	12	1638	Langmuir	HCA
Fan, F	2002	124	5550	J Am Chem Soc	HCA
Felgenhauer, T	2001	79	3323	Appl Phys Lett	HCA
Finklea, H	1996	19	109	Electroanalytical Ch	HCA
Finklea, H	1992	114	3173	J Am Chem Soc	HCA
Finklea, H	1996	100	18852	Phys Chem	HCA
Frey, S	2002	18	3142	Langmuir	HCA
Golzhauser, A	2001	13	806	Adv Mater	HCA
Golzhauser, A	2000	18	3414	J Vac Sci Technol B	HCA
Guo, L	1995	99	8458	J Phys Chem	HCA
Harnett, C	2000	76	2466	Appl Phys Lett	HCA
Heister, K	2001	105	6888	J Phys Chem B	HCA
Holmlin, R	2001	123	5075	J Am Chem Soc	HCA
Hutt, D	1999	9	923	J Mater Chem	HCA
Ishida, T	1999	103	1686	J Phys Chem B	HCA
Ishida, T	2002	106	5886	J Phys Chem B	HCA
Ishida, T	2000	18	1437	J Vac Sci Technol A	HCA
Ishii, K	1973	46	3385	Bull Chem Soc Jpn	HCA
Katz, E	1993	9	1392	Langmuir	HCA
Koehn, F	1998			Diploma thesis, Rupr	
Lanza, V	1958	28	622	J Polym Sci	HCA
Leatherman, G	1999	103	4006	J Phys Chem B	HCA
Lercel, M	1996	68	1504	Appl Phys Lett	HCA
Lercel, M	1994	12	3663	J Vac Sci Technol B	HCA
Liu, Z	1996	100	17337	J Phys Chem	HCA
Long, Y	2002	524-5	62	J Electroanal Chem	HCA
Michalitsch, R	1997	9	321	Adv Mater	HCA
Miller, C	1991	95	5225	J Phys Chem	HCA
Miller, C	1991	95	877	J Phys Chem	HCA
Mukae, F	1996	69	2461	Bull Chem Soc Jpn	HCA
Nuzzo, R	1990	112	558	J Am Chem Soc	HCA
Oldham, K	1970	26	331	J Electroanal Chem	HCA
Olsen, C	1998	108	3750	J Chem Phys	HCA
Porter, M	1987	109	3559	J Am Chem Soc	HCA
Reed, M	1997	278	252	Science	HCA
Reichert, J	2002	88	176804	Phys Rev Lett	MEDLINE
Rong, H	2001	17	1582	Langmuir	HCA
Rong, H	2001			PhD thesis, Ruprecht	
Sabatani, E	1993	9	2974	Langmuir	HCA
Sachs, S	1997	119	10563	J Am Chem Soc	HCA
Sawyer, D	1974		77	Experimental Electro	
Sek, S	2002	106	5907	J Phys Chem B	HCA
Sikes, H	2001	291	1519	Science	HCA
Slowinski, K	1996	118	4709	J Am Chem Soc	HCA
Slowinski, K	1997	119	11910	J Am Chem Soc	HCA
Slowinski, K	1999	121	7257	J Am Chem Soc	HCA
Smalley, J	1995	99	13141	J Phys Chem	HCA
Sondag-Huethorst, J	1994	64	285	Appl Phys Lett	HCA
Sun, S	2002	124	2414	J Am Chem Soc	HCA
Volkel, B	1997	15	2877	J Vac Sci Technol B	HCA
Weber, K	1997	101	8286	J Phys Chem B	HCA
Whiston, P	1973	45	1298	Anal Chem	
Wold, D	2001	123	5549	J Am Chem Soc	HCA
Wold, D	2002	106	2813	J Phys Chem B	HCA

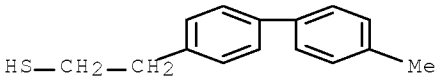
Xu, J	1993	97	11497	J Phys Chem	HCA
Yu, H	1997	13	5774	Langmuir	HCA
Zhitenev, N	2002	88	226801	Phys Rev Lett	MEDLINE

OS.CITING REF COUNT: 18 THERE ARE 18 CAPLUS RECORDS THAT CITE THIS RECORD (18 CITINGS)

L37 ANSWER 5 OF 14 HCA COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 138:391234 HCA Full-text
TITLE: In situ observation of particle-induced desorption from a self-assembled monolayer by laser-ionization mass spectrometry
AUTHOR(S): Vandeweert, E.; Bastiaansen, J.; Vervaecke, F.; Lievens, P.; Silverans, R. E.; Cyganik, P.; Postawa, Z.; Rong, H. T.; Buck, M.
CORPORATE SOURCE: Laboratorium voor Vaste-Stoffysica en Magnetisme, K. U. Leuven, Louvain, B-3001, Belg.
SOURCE: Applied Physics Letters (2003), 82(7), 1114-1116
CODEN: APPLAB; ISSN: 0003-6951
PUBLISHER: American Institute of Physics
DOCUMENT TYPE: Journal
LANGUAGE: English

AB We studied particle-stimulated desorption processes of highly ordered, self-assembled monolayers of biphenyl-based thiols covalently bound to Au/mica substrates with laser postionization in combination with mass spectrometry. Direct evidence was obtained that large mol. fragments are removed from these monolayers during impact of electrons with a kinetic energy of 1 keV. The damage that accumulates in the self-assembled monolayer with increasing electron dose was measured using ion-beam, sputter-initiated laser probing. Our results show that electron-induced desorption competes with the gradual erosion of the monolayer by the formation of a carbonaceous residual layer on the substrate.

IT 317834-22-3D, gold bound
(particle-induced desorption from SAM by laser-ionization mass spectrometry)
RN 317834-22-3 HCA
CN [1,1'-Biphenyl]-4-ethanethiol, 4'-methyl- (CA INDEX NAME)



CC 66-3 (Surface Chemistry and Colloids)
ST particle induced desorption SAM laser ionization mass spectrometry
IT Desorption
Laser ionization mass spectrometry
Self-assembled monolayers
(particle-induced desorption from SAM by laser-ionization mass spectrometry)
IT Mass spectra
(particle-induced desorption from SAM studied using)
IT 7440-57-5D, Gold, thiolated 317834-22-3D, gold bound
(particle-induced desorption from SAM by laser-ionization mass spectrometry)
RETABLE

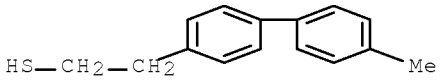
Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Anon	1995			Organic Thin Films a	
Chang, S	1994	116	6792	J Am Chem Soc	HCA
Cyganik, P	1999	148	137	Nucl Instrum Methods	HCA
Frey, S	2002	18	3142	Langmuir	HCA
Geyer, W	1999	75	2401	Appl Phys Lett	HCA
Golzhauser, A	2000	18	3414	J Vac Sci Technol B	HCA
Hutt, D	1999	9	923	J Mater Chem	HCA
Kondoh, H	1998	102	2367	J Phys Chem	HCA
Meserole, C	1999	141	339	Appl Surf Sci	HCA
Olsen, C	1998	108	3750	J Chem Phys	HCA
Postawa, Z	2001	182	148	Nucl Instrum Methods	HCA
Rading, D	1998	16	3449	J Vac Sci Technol A	HCA
Riederer, D	1997	119	8089	J Am Chem Soc	HCA
Rong, H	2001	17	1582	Langmuir	HCA
Seshadri, K	1996	100	15900	J Phys C	HCA
Vandamme, N	2001	72	S177	Appl Phys A: Mater S	
Vandeweert, E	2000	164-1	820	Nucl Instrum Methods	HCA
Vandeweert, E	2001	64	195417	Phys Rev B	
Zharnikov, M	2000	16	2697	Langmuir	HCA

OS.CITING REF COUNT: 6 THERE ARE 6 CAPLUS RECORDS THAT CITE THIS RECORD (6 CITINGS)

L37 ANSWER 6 OF 14 HCA COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 138:29534 HCA Full-text
TITLE: Desorption of neutral molecules from ion-bombarded organic self assembled monolayers
AUTHOR(S): Cyganik, P.; Bastiaansen, J.; Meserole, C. A.; Vandeweert, E.; Winograd, N.; Lievens, P.; Silverans, R. E.; Szymonska, J.; Postawa, Z.
CORPORATE SOURCE: Inst. of Phys., Jagellonian Univ., Krakow, Pol.
SOURCE: Izvestiya Akademii Nauk, Seriya Fizicheskaya (2002), 66(7), 1012-1015
CODEN: IRAFEO; ISSN: 1026-3489
PUBLISHER: Nauka
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The ion-stimulated desorption of mol. fragments from self- assembled monolayers (SAMs) composed from phenethyl mercaptan (PEM) C6H5CH2CH2-SH and 2-(4'-methyl-biphenyl-4-yl)ethanethiol (BP2) CH3(C6H4)2CH2CH2-SH deposited on Au(111) substrate was investigated. The emission of neutral fragments was measured by laser postionization mass spectrometry. From exptl. obtained time-of-flight (TOF) distributions, it was determined that the majority of ion-desorbed neutral mols. leave the surface with very low translational energies. As the sample temperature is reduced, the distributions become broader and shift to longer flight times. The shift is the most pronounced for mols. emitted from BP2 and increases with the size of the recorded mol. fragment. The time dependence of neutral desorption signal shows that the damage cross section is large and exceeds the damage cross section reported for electron-irradiated samples by orders of magnitude.

IT 317834-22-3
(desorption of neutral mols. from ion-bombarded organic self-assembled monolayers of)
RN 317834-22-3 HCA
CN [1,1'-Biphenyl]-4-ethanethiol, 4'-methyl- (CA INDEX NAME)



CC 66-3 (Surface Chemistry and Colloids)
ST thiol self assembled monolayer ion beam induced desorption
IT Self-assembled monolayers
(desorption of neutral mols. from ion-bombarded organic self-assembled monolayers)
IT Desorption
(ion-beam-induced; desorption of neutral mols. from ion-bombarded organic self-assembled monolayers)
IT Molecules
(neutral; desorption of neutral mols. from ion-bombarded organic self-assembled monolayers)
IT Translational energy
(of neutral mols. desorbed from ion-bombarded organic self-assembled monolayers)
IT 4410-99-5, Phenethyl mercaptan
(desorption of neutral mols. from ion-bombarded organic self-assembled monolayers)
IT 7440-57-5, Gold, uses
(desorption of neutral mols. from ion-bombarded organic self-assembled monolayers from)
IT 317834-22-3
(desorption of neutral mols. from ion-bombarded organic self-assembled monolayers of)
IT 14791-69-6, Argon1+, processes
(ion beam; desorption of neutral mols. from ion-bombarded organic self-assembled monolayers from)
RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Berggren, K	1995	269	1255	Science	HCA
Chatterjee, R	1999	103	151	J Phys Chem	HCA
Chenakin, S	1998	397	84	Surf Sci	HCA
Chenakin, S	1999	436	131	Surf Sci	HCA
Chenakin, S	1999	421	337	Surf Sci	HCA
Delcorte, A	2000	171	277	Nucl Instrum Methods	HCA
Kobrin, P	1986	57	1354	Rev Sci Instrum	HCA
Legget, J	1992	122	281	Int J Mass Spectrom	
Meserole, C	1999	141	339	Appl Surf Sci	HCA
Postawa, Z	2001	182	148	Nucl Instrum Methods	HCA
Rading, D	2000	18	312	J Vac Sci Technol A	HCA
Riederer, D	1997	119	8089	J Amer Chem Soc	HCA
Rong, H				Private communicatio	
Taylor, R	1995	143	225	Int J Mass Spectrom	HCA
Vandeweert, E				Appl Phys Lett (in p	
Zharnikov, M	2000	16	2697	Langmuir	HCA
Zharnikov, M	1999	1	3163	Phys Chem	HCA

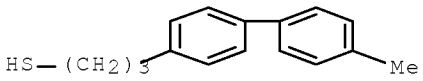
L37 ANSWER 7 OF 14 HCA COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 137:161006 HCA Full-text
TITLE: Development of a two-color picosecond optical parametric oscillator, pumped by a Nd:YAG laser mode

locked using a nonlinear mirror, for doubly-resonant sum frequency generation spectroscopy
AUTHOR(S): Mani, A. A.; Dreesen, L.; Humbert, C.; Hollander, P.; Caudano, Y.; Thiry, P. A.; Peremans, A.
CORPORATE SOURCE: Laboratoire de Spectroscopie Moleculaire de Surface, Facultes Universitaires Notre-Dame de la Paix, Namur, B-5000, Belg.
SOURCE: Surface Science (2002), 502-503, 261-267
CODEN: SUSCAS; ISSN: 0039-6028
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The authors set up a doubly-resonant sum frequency generation (DR-SFG) spectrometer based on the use of an all-solid-state flash-lamp-pumped Nd:YAG laser that synchronously pumps two parametric oscillators. Pulses as short as 12 ps FWHM are generated by mode locking a Nd:YAG oscillator using a frequency doubling nonlinear mirror combined with a two-photon absorber. The available pump power is shared between a LiNbO3/AgGaS2 optical parametric oscillator (OPO), tunable from 3800 to 1100 cm-1 and a BBO OPO tunable from 410 to 2600 nm. Spectral resolution and pulse are 2 and 3 cm-1 in the IR and visible spectral ranges, resp. First DR-SFG spectra of self-assembled monolayers on Au are presented.

IT 298704-21-9
(development of a two-color picosecond optical parametric oscillator, pumped by a Nd:YAG laser mode locked using a nonlinear mirror, for doubly-resonant sum frequency generation spectroscopy)

RN 298704-21-9 HCA
CN [1,1'-Biphenyl]-4-propanethiol, 4'-methyl- (CA INDEX NAME)



CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

IT 183206-40-8 298704-21-9
(development of a two-color picosecond optical parametric oscillator, pumped by a Nd:YAG laser mode locked using a nonlinear mirror, for doubly-resonant sum frequency generation spectroscopy)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Bain, C	1995	91	1281	J Chem Soc Faraday T	HCA
Buck, M				Organisch Chemisches	
Chekhlov, O	1998	15	210	J Opt Soc Am B	HCA
Dreesen, L	2001	333	327	Chem Phys Lett	HCA
Du, Q	1994	264	826	Science	HCA
Heinz, T	1989	63	644	Phys Rev Lett	HCA
Hicks, J	1988	61	2588	Phys Rev Lett	HCA
Huang, J	1994	49	3973	Phys Rev A	HCA
Humbert, C	2002	502-5	203	Surf Sci	HCA
Ishibashi, T	2001			the Conference on Vi	
Le Rille, A	1997	271	95	Chem Phys Lett	HCA
Luce, T	1998	58	15821	Phys Rev B	HCA
Mani, A	1999	75	3066	Appl Phys Lett	HCA
Peremans, A	1996	375	657	Nucl Instrum Meth A	HCA

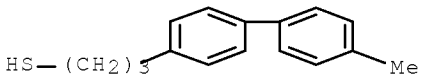
Raschke, M	2001			the March meeting of	
Shen, Y	1989	337	519	Nature	HCA
Stankov, K	1988	66	41	Opt Commun	HCA
Urbach, L	1992	45	2769	Phys Rev B	

OS.CITING REF COUNT: 20 THERE ARE 20 CAPLUS RECORDS THAT CITE THIS RECORD (20 CITINGS)

L37 ANSWER 8 OF 14 HCA COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 137:147342 HCA Full-text
TITLE: IR-visible sum-frequency vibrational spectroscopy of Biphenyl-3 methylene thiol monolayer on gold and silver: effect of the visible wavelength on the SFG spectrum
AUTHOR(S): Humbert, C.; Dreesen, L.; Mani, A. A.; Caudano, Y.; Lemaire, J.-J.; Thiry, P. A.; Peremans, A.
CORPORATE SOURCE: Laboratoire de Spectroscopie Moleculaire de Surface, Facultes Universitaires Notre-Dame de la Paix, Brussels, Namur, B-5000, Belg.
SOURCE: Surface Science (2002), 502-503, 203-207
CODEN: SUSCAS; ISSN: 0039-6028
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The authors measured IR-visible sum-frequency generation spectra of CH3-(C6H4)2-(CH2)3-S-H (Biphenyl-3) self-assembled monolayers on a Ag and a Au substrate. For the latter substrate, the authors observed different interference patterns between the resonant signal of the CH vibration and the nonresonant contribution of the substrate as a function of the visible beam wavelength. The nonlinear response of the Au substrate is enhanced around 480 nm corresponding to the s-d interband transition. Such effect is not observed for the Ag substrate the interband transition of which is located out of the studied visible spectral range of 450 - 700 nm.

IT 298704-21-9
(IR-visible sum-frequency vibrational spectroscopy of Biphenyl-3 methylene thiol monolayer on gold and silver and effect of visible wavelength on SFG spectrum)
RN 298704-21-9 HCA
CN [1,1'-Biphenyl]-4-propanethiol, 4'-methyl- (CA INDEX NAME)



CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
ST IR visible sum frequency generation biphenyl methylene thiol; self assembled monolayer mol vibration interband transition
IT IR spectra
Interband transition
Interference
Molecular vibration
Self-assembled monolayers
Sum-frequency generation
UV and visible spectra
(IR-visible sum-frequency vibrational spectroscopy of Biphenyl-3 methylene thiol monolayer on gold and silver and effect of visible wavelength on SFG spectrum)

IT 7440-22-4, Silver, properties 7440-57-5, Gold, properties
298704-21-9
(IR-visible sum-frequency vibrational spectroscopy of Biphenyl-3 methylene thiol monolayer on gold and silver and effect of visible wavelength on SFG spectrum)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Bain, C	1995	91	1281	J Chem Soc Farad Tra	HCA
Braun, R	1999	110	4634	J Chem: Phys	HCA
Cooper, B	1965	138	A494	Phys Rev A	
Ehrenreich, H	1962	128	1622	Phys Rev	HCA
Eisert, F	1998	58	10860	Phys Rev B	HCA
Guyot-Sionnest, P	1990	172	341	Chem Phys Lett	HCA
Guyot-Sionnest, P	1987	59	1597	Phys Rev Lett	HCA
Heinz, T	1982	48	478	Phys Rev Lett	HCA
Heinz, T	1989	63	644	Phys Rev Lett	HCA
Himmelhaus, M	2000	104	576	J Phys Chem B	HCA
Hines, M	1995	11	493	Langmuir	HCA
Huang, J	1990	42	3660	Phys Rev A	HCA
Jiang, M	1991	242	306	Surf Sci	HCA
Le Rille, A	1997			Thesis Paris-Sud Uni	
Liebsch, A	1999	68	301	Appl Phys B	HCA
Luce, T	1998	58	15821	Phys Rev B	HCA
Mani, A	1999	75	3066	Appl Phys Lett	HCA
Mani, A	2001	79	1945	Appl Phys Lett	HCA
Mani, A	1999		153	Proceedings of the E	
Mendoza, B	1999	60	14334	Phys Rev B	HCA
Rong, H	2001	17	1582	Langmuir	HCA
Shen, Y	1989	337	519	Nature	HCA
Shen, Y	1996	93	12104	P Natl A Sci	HCA
Shen, Y	1994	299/3	551	Surf Sci	
Tadjeddine, A	1999	473	25	J Electroanal Chem	HCA
Tadjeddine, A	1998			Spectroscopy for Sur	
Tao, Y	1997	13	4018	Langmuir	HCA
Zolk, M	2000	16	5849	Langmuir	HCA

OS.CITING REF COUNT: 17 THERE ARE 17 CAPLUS RECORDS THAT CITE THIS RECORD (17 CITINGS)

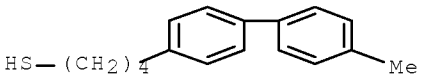
L37 ANSWER 9 OF 14 HCA COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 136:360086 HCA Full-text
TITLE: Response of Biphenyl-Substituted Alkanethiol Self-Assembled Monolayers to Electron Irradiation: Damage Suppression and Odd-Even Effects
AUTHOR(S): Frey, S.; Rong, H. T.; Heister, K.; Yang, Y. J.; Buck, M.; Zharnikov, M.
CORPORATE SOURCE: Angewandte Physikalische Chemie, Universitaet Heidelberg, Heidelberg, D-69120, Germany
SOURCE: Langmuir (2002), 18(8), 3142-3150
CODEN: LANGD5; ISSN: 0743-7463
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The low-energy electron-induced damage in self-assembled monolayers (SAMs) formed from ω-(4'-methylbiphenyl-4-yl)alkanethiols Me(C6H4)2(CH2)nSH (BPn, n = 0, 1, 4, 5, and 12) on Au substrates was studied. The pristine and heavily (8000 μC/cm2) irradiated films were characterized in detail by XPS, near-edge x-ray

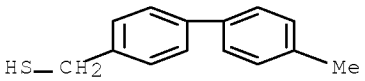
absorption fine structure spectroscopy, IR reflection absorption spectroscopy, and advancing contact angle measurements. In contrast to SAMs of conventional alkanethiols but similar to pure aromatic thiol-derived systems, only minor damage is observed for the aliphatic-aromatic BPn films. In particular, the orientational order and anchoring to the substrate are retained upon the irradiation At the same time, C-H bond scissions in the aromatic part occur, leading to a crosslinking between the neighboring biphenyl moieties. Whereas the general behavior of the BPn SAMs with respect to electron irradiation is qual. similar, the extent of the irradiation-induced changes depends on the packing of these systems. The densely packed BP1 and BP5 SAMs are much more stable with respect to electron bombardment than the less densely packed BP4 films. The relation between the packing d. and the extent of the irradiation-induced changes seems to be a general phenomenon in monomol. films, which provides a tool to tailor the reaction of these systems toward ionizing radiation for lithog. applications.

IT 298704-23-1 330442-96-1 392702-54-4
(response of biphenyl-substituted alkanethiol self-assembled monolayers to electron irradiation)

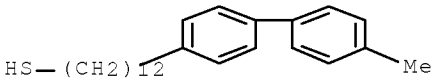
RN 298704-23-1 HCA
CN [1,1'-Biphenyl]-4-butanethiol, 4'-methyl- (CA INDEX NAME)



RN 330442-96-1 HCA
CN [1,1'-Biphenyl]-4-methanethiol, 4'-methyl- (CA INDEX NAME)



RN 392702-54-4 HCA
CN [1,1'-Biphenyl]-4-dodecanethiol, 4'-methyl- (CA INDEX NAME)



CC 66-4 (Surface Chemistry and Colloids)
Section cross-reference(s): 74

ST biphenyl alkanethiol self assembled monolayer
electron irradn

IT Electron beams
(irradiation; response of biphenyl-substituted alkanethiol self-assembled monolayers to electron irradiation)

IT Crosslinking
IR reflection-absorption spectra
Orientational order
Self-assembled monolayers

X-ray photoelectron spectra
XAFS spectra
(response of biphenyl-substituted alkanethiol self-assembled monolayers to electron irradiation)

IT Thiols, properties
(response of biphenyl-substituted alkanethiol self-assembled monolayers to electron irradiation)

IT Lithography
(response of biphenyl-substituted alkanethiol self-assembled monolayers to electron irradiation in relation to)

IT Contact angle
(water and hexadecane; response of biphenyl-substituted alkanethiol self-assembled monolayers to electron irradiation)

IT 298704-23-1 298704-25-3 330442-96-1 392702-54-4
(response of biphenyl-substituted alkanethiol self-assembled monolayers to electron irradiation)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Baer, D	1994	12	2478	J Vac Sci Technol, A	HCA
Bagus, P	1996	248	129	Chem Phys Lett	HCA
Batson, P	1993	48	2608	Phys Rev B	HCA
Bernstorff, S	1989	60	2097	Rev Sci Instrum	HCA
Charbonneau, G	1976	32	1420	Acta Crystallogr B	
Eck, W	2000	12	805	Adv Mater	HCA
Felgenhauer, T	2001	79	3323	Appl Phys Lett	HCA
Frey, S	2000	40	81	Isr J Chem	HCA
Frey, S	2001	17	2408	Langmuir	HCA
Frey, S	2000	2	1979	Phys Chem Chem Phys	HCA
Frey, S	2000	2	3721	Phys Chem Chem Phys	HCA
Frydman, E	1997	13	5089	Langmuir	HCA
Geyer, W	1999	75	2401	Appl Phys Lett	HCA
Golzhauser, A	2001	13	806	Adv Mater	HCA
Golzhauser, A	2000	18	3414	J Vac Sci Technol, B	HCA
Graham, R	1993	97	9456	J Phys Chem	HCA
Hahner, G	1992	10	2758	J Vac Sci Technol	
Hahner, G	1991	67	851	Phys Rev Lett	
Hahner, G	1992	69	694	Phys Rev Lett	
Harder, P	1998	102	426	J Phys Chem	HCA
Harris, A	1990	64	2086	Phys Rev Lett	HCA
Heister, K	1999	103	11098	J Phys Chem B	HCA
Heister, K	2001	105	4058	J Phys Chem B	HCA
Heister, K	2001	105	6888	J Phys Chem B	HCA
Heister, K	2001	17	8	Langmuir	HCA
Hild, R	1998	14	342	Langmuir	HCA
Himmel, H	1998	120	12069	J Am Chem Soc	HCA
Horsley, J	1985	83	6099	J Chem Phys	HCA
Jager, B	1997	202	263	Z Phys Chem	HCA
Kitaigorodskii, I	1961			Organic Chemical Cry	
Kohn, F	1998			Diploma Thesis, Univ	
Kondoh, H	1998	102	2367	J Phys Chem B	HCA
Laibinis, P	1991	254	981	Science	HCA
Lampert, A	1997			PhD Thesis, Universi	
Lercel, M	1994	12	3663	J Vac Sci Technol, B	HCA
Lii, J	1989	111	8576	J Am Chem Soc	HCA
Maoz, R	1999	11	55	J Adv Mater	HCA

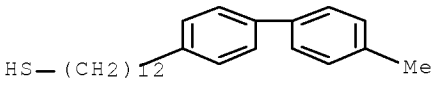
Moulder, J	1992			Handbook of X-ray Ph	
Muller, H	1998	102	7949	J Phys Chem B	
Nuzzo, R	1990	112	558	J Am Chem Soc	HCA
Olsen, C	1998	108	3750	J Chem Phys	HCA
Outka, D	1988	88	4076	J Chem Phys	HCA
Rieke, P	1993	11	2292	J Vac Sci Technol, A	HCA
Rong, H	2001	17	1582	Langmuir	HCA
Rong, H	2001			PhD Thesis, Universi	
Rowntree, P	1996	100	4546	J Phys Chem	HCA
Seshardi, K	1996	100	15900	J Phys Chem	
Shirley, D	1972	5	4709	Phys Rev B	
Stohr, J	1992			NEXAFS Spectroscopy,	
Stohr, J	1987	36	7891	Phys Rev B	HCA
Thome, J	1998	14	7435	Langmuir	HCA
Trotter, J	1961	14	1135	Acta Crystallogr	HCA
Ulman, A	1991			An Introduction to U	
Ulman, A	1996	96	1533	Chem Rev	HCA
Ulman, A	1998			Thin films:self-asse	
Vaterlein, P	1998	108	3313	J Phys Chem	HCA
Volkel, B	1997	15	2877	J Vac Sci Technol, B	HCA
Weiss, K	1999	111	6834	J Chem Phys	HCA
Weiss, K	1998	16	1017	J Vac Sci Technol, A	HCA
Wertheim, G	1974	45	1369	Rev Sci Instrum	
Zeysing, B				Submitted for public	
Zharnikov, M	2000	16	2697	Langmuir	HCA
Zharnikov, M	1999	1	3163	Phys Chem Chem Phys	HCA
Zharnikov, M	2000	2	3359	Phys Chem Chem Phys	HCA

OS.CITING REF COUNT: 53 THERE ARE 53 CAPLUS RECORDS THAT CITE THIS RECORD (53 CITINGS)

L37 ANSWER 10 OF 14 HCA COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 136:142475 HCA Full-text
TITLE: Electrode modification by electron-induced patterning of aromatic self-assembled monolayers
AUTHOR(S): Felgenhauer, T.; Yan, C.; Geyer, W.; Rong, H.-T.; Golzhauser, A.; Buck, M.
CORPORATE SOURCE: Lehrstuhl fur Angewandte Physikalische Chemie, University of Heidelberg, Heidelberg, 69120, Germany
SOURCE: Applied Physics Letters (2001), 79(20), 3323-3325
CODEN: APPLAB; ISSN: 0003-6951
PUBLISHER: American Institute of Physics
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Self-assembled monolayers of ω-(4'-methyl-biphenyl-4-yl)-dodecyl thiol [CH3-C6H4-C6H4-(CH2)12-SH, BP12] on gold were patterned via exposure to 300 eV electrons. Subsequent copper deposition in an electrochem. cell revealed behavior opposite to that of electron beam patterned monolayers of alkanethiols. Whereas alkanethiols act as a pos. resist and lead to copper deposition only on irradiated parts, the biphenyl based thiol acts as a neg. resist. At the irradiated areas the layer exhibits blocking behavior and copper deposition is observed only on the nonirradiated parts.

IT 392702-54-4
(BP12; electrode modification by electron-induced patterning of aromatic self-assembled monolayers and copper electrodeposition)
RN 392702-54-4 HCA
CN [1,1'-Biphenyl]-4-dodecanethiol, 4'-methyl- (CA INDEX NAME)



CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 76
IT Chemically modified electrodes
Electrodeposition
Electron beam lithography
Self-assembled monolayers
(electrode modification by electron-induced patterning of aromatic self-assembled monolayers and copper electrodeposition)
IT 392702-54-4
(BP12; electrode modification by electron-induced patterning of aromatic self-assembled monolayers and copper electrodeposition)
IT 7440-50-8, Copper, processes
(electrode modification by electron-induced patterning of aromatic self-assembled monolayers and copper electrodeposition)
IT 2917-26-2, Hexadecane thiol 7440-57-5, Gold, processes
(electrode modification by electron-induced patterning of aromatic self-assembled monolayers and copper electrodeposition)
IT 7664-93-9, Sulfuric acid, processes 7758-98-7, Sulfuric acid copper(2+) salt (1:1), processes
(electrolyte; electrode modification by electron-induced patterning of aromatic self-assembled monolayers and copper electrodeposition)
RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Ada, E	1995	13	2189	J Vac Sci Technol B	HCA
Calvert, J	1993	11	2155	J Vac Sci Technol B	HCA
David, C	1996	30	57	Microelectron Eng	HCA
Dressick, W	2001	78	676	Appl Phys Lett	HCA
Dulcey, C	1996	12	1638	Langmuir	HCA
Eck, W	2000	12	805	Adv Mater	HCA
Felgenhauer, T				unpublished	
Finklea, H	1996	19	109	Electroanalytical Ch	HCA
Flink, S	2000	12	1315	Adv Mater	HCA
Geyer, W	1999	75	2401	Appl Phys Lett	HCA
Goldenberg, L	1999	9	1957	J Mater Chem	HCA
Golzhauser, A	2001	13	806	Adv Mater	HCA
Golzhauser, A	2000	18	3414	J Vac Sci Technol B	HCA
Harnett, C	2000	76	2466	Appl Phys Lett	HCA
Heister, K	2001	17	8	Langmuir	HCA
Lercel, M	1996	68	1504	Appl Phys Lett	HCA
Lercel, M	1994	12	3663	J Vac Sci Technol B	HCA
Muller, H	1998	102	7949	J Phys Chem B	
Olsen, C	1998	108	3750	J Chem Phys	HCA
Rong, H	2001	17	1582	Langmuir	HCA
Rong, H	2001	17	1582	Langmuir	HCA

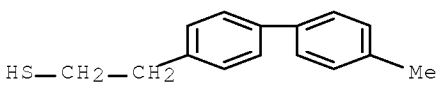
Sachs, S	1997	119	10563	J Am Chem Soc	HCA
Seshadri, K	1996	100	15900	J Phys Chem	HCA
Sondag-Huethorst, J	1994	64	285	Appl Phys Lett	HCA
Xia, Y	1998	37	551	Angew Chem Int Ed En	
Zharnikov, M	1999	1	3163	Phys Chem Chem Phys	HCA

OS.CITING REF COUNT: 47 THERE ARE 47 CAPLUS RECORDS THAT CITE THIS RECORD (47 CITINGS)

L37 ANSWER 11 OF 14 HCA COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 135:309252 HCA Full-text
TITLE: Emission of neutral molecules from ion-bombarded thiol self-assembled monolayers
AUTHOR(S): Postawa, Z.; Meserole, C. A.; Cyganik, P.; Szymonska, J.; Winograd, N.
CORPORATE SOURCE: Institute of Physics, Jagiellonian University, Krakow, 30-059/16, Pol.
SOURCE: Nuclear Instruments & Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms (2001), 182, 148-154
CODEN: NIMBEU; ISSN: 0168-583X
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The authors have studied ion-stimulated desorption of neutral mols. emitted from 8 keV Ar+ ion-bombarded self-assembled monolayers (SAMs) of phenethyl mercaptan (PEM) C6H5CH2CH2-SH and 2-(4'-Me-biphenyl-4-yl)-ethanethiol (BP2) CH3C6H4C6H4CH2CH2-SH deposited on Au(111) substrate. Neutral mols. were detected by laser postionization mass spectrometry. Only mol. fragments were detected from ion-bombarded systems. The mass spectra obtained for sputtered and gas phase fragments indicate that mols. recorded during ion bombardment were indeed emitted from the surface and were not the result of photofragmentation induced by the ionizing laser beam. From exptl. obtained time-of-flight (TOF) distributions, the majority of desorbed neutral mols. leave the surface with very low translational energies. As the sample temperature is reduced, the distributions become broader and shift to longer flight times. The shift is more pronounced for mols. from BP2 and increases with the mass of the recorded mol. fragment. The authors postulate that the emission of mols. is initiated by processes which gently break mol. bonds (e.g., chemical reactions, secondary electrons). The formed fragments are loosely bound to the surface and can be removed by evaporation At the studied temperature range (170-350 K), the observed emission delay is attributed to the time required for the mol. to evaporate from the surface and is not influenced by the bond breaking rate.

IT 317834-22-3D, gold-bound
(emission of neutral mols. from ion-bombarded thiol self-assembled monolayers on gold)
RN 317834-22-3 HCA
CN [1,1'-Biphenyl]-4-ethanethiol, 4'-methyl- (CA INDEX NAME)



CC 66-3 (Surface Chemistry and Colloids)
Section cross-reference(s): 67
ST ion stimulated desorption neutral mol thiol SAM gold
IT Self-assembled monolayers

(emission of neutral mols. from ion-bombarded thiol self-assembled monolayers)
IT Desorption
(ion-beam-induced, kinetics; emission of neutral mols. from ion-bombarded thiol self-assembled monolayers)
IT 100-41-4, Ethyl benzene, properties 76708-90-2
(desorbed from ion-bombarded thiol self-assembled monolayers on gold)
IT 4410-99-5D, Phenethyl mercaptan, gold-bound
(emission of neutral mols. from ion-bombarded thiol self-assembled monolayers on gold)
IT 7440-57-5D, Gold, compds. with thiol, properties 317834-22-3D, gold-bound
(emission of neutral mols. from ion-bombarded thiol self-assembled monolayers on gold)
RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Anon	2001			CRC Handbook of Chem	
Berggren, K	1995	269	1255	Science	HCA
Canry, J	1997		623	A benninghoven	
Chatterjee, R	1999	103	151	J Phys Chem	HCA
Chenakin, S	1998	397	84	Surf Sci	HCA
Chenakin, S	1999	436	131	Surf Sci	HCA
Chenakin, S	1999	421	337	Surf Sci	HCA
Cyganik, P	2000	33	337	Electron Technol	HCA
Cyganik, P	1999	148	137	Nucl Instr and Meth	HCA
Delcorte, A	2000	104	2673	J Phys Chem B	HCA
Dubois, L	1992	43	437	Annu Rev Phys Chem	HCA
Gillen, G	1994	65	534	Appl Phys Lett	HCA
Hai, L	1998	174	193	Int J Mass Spectrom	
Jianwei, S	1999	182-1	423	Int J Mass Spectrom	
Kobrin, P	1986	57	1354	Rev Sci Instrum	HCA
Kondoh, H	1998	B102	2367	J Phys Chem	
Liu, K	1999	103	3195	J Phys Chem B	HCA
Meserole, C	1999	141	339	Appl Surf Sci	HCA
Pedrys, R	1986	17	15	Nucl Instr and Meth	
Riederer, D	1997	119	8089	J Am Chem Soc	HCA
Rong, H				Private communicatio	
Taylor, R	1995	143	225	Int J Mass Spectrom	HCA
Ulman, A	1991			An Introduction to U	
Ulman, A	1996	96	1533	Chem Rev	HCA
Vandeweert, E	2000	164	820	Nucl Instr and Meth	
Wan, L	2000	104	3563	J Phys Chem B	HCA
Zharnikov, M	2000	16	2697	Langmuir	HCA

OS.CITING REF COUNT: 13 THERE ARE 13 CAPLUS RECORDS THAT CITE THIS RECORD (13 CITINGS)

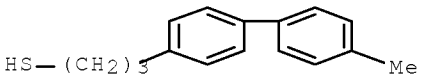
L37 ANSWER 12 OF 14 HCA COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 135:216420 HCA Full-text
TITLE: Odd-Even Effects at the S-Metal Interface and in the Aromatic Matrix of Biphenyl-Substituted Alkanethiol Self-Assembled Monolayers
AUTHOR(S): Heister, K.; Rong, H.-T.; Buck, M.; Zharnikov, M.; Grunze, M.; Johansson, L. S. O.
CORPORATE SOURCE: Angewandte Physikalische Chemie, Universitaet Heidelberg, Heidelberg, D-69120, Germany
SOURCE: Journal of Physical Chemistry B (2001),

105(29), 6888-6894
CODEN: JPCBFK; ISSN: 1089-5647
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

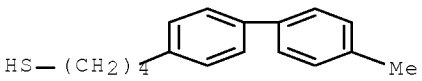
AB Synchrotron-based high-resolution XPS was applied to characterize self-assembled monolayers (SAM) of biphenyl-substituted alkanethiols CH3(C6H4)2(CH2)nSH (BPn, n = 1-4) on Au and Ag substrates. Beyond previously identified odd-even changes in the packing d. and the tilt angle of the biphenyl moieties, the high-resolution spectra reveal a number of addnl. odd-even effects upon variation of the number of methylene groups in the aliphatic part in the BPn mol. Their occurrence and mutual correlation suggests that a BPn SAM represents a strongly correlated, highly ordered mol. assembly. In particular, periodical changes of a shake up feature in the C 1s region are observed, which are related to the differences in the arrangement of the aromatic matrix. The width and binding energy position of the S 2p signals also exhibit odd-even changes. The width changes are associated with the occupation of either equivalent or nonequivalent adsorption sites on the polycryst. (111) Au and Ag substrates. The comparison of the width values with those for conventional alkanethiols implies that the substrate bonding of alkanethiols on gold cannot be described by a single adsorption site.

IT 298704-21-9 298704-23-1 298704-27-5
317834-22-3 330442-96-1
(odd-even effects at the S-metal interface and in the aromatic matrix of biphenyl-substituted alkanethiol self-assembled monolayers)

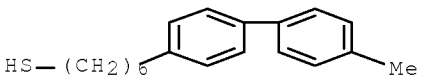
RN 298704-21-9 HCA
CN [1,1'-Biphenyl]-4-propanethiol, 4'-methyl- (CA INDEX NAME)



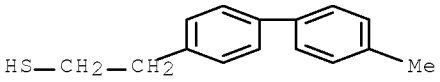
RN 298704-23-1 HCA
CN [1,1'-Biphenyl]-4-butanethiol, 4'-methyl- (CA INDEX NAME)



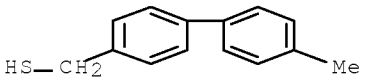
RN 298704-27-5 HCA
CN [1,1'-Biphenyl]-4-hexanethiol, 4'-methyl- (CA INDEX NAME)



RN 317834-22-3 HCA
CN [1,1'-Biphenyl]-4-ethanethiol, 4'-methyl- (CA INDEX NAME)



RN 330442-96-1 HCA
CN [1,1'-Biphenyl]-4-methanethiol, 4'-methyl- (CA INDEX NAME)



CC 66-3 (Surface Chemistry and Colloids)
ST XPS biphenyl substrate alkanethiols self assembled monolayers
IT Thiols (organic), properties
(biphenyl-substituted; odd-even effects at the S-metal interface and in the aromatic matrix of biphenyl-substituted alkanethiol self-assembled monolayers)
IT Binding energy
Interfacial structure
Self-assembled monolayers
Surface structure
X-ray photoelectron spectroscopy
(odd-even effects at the S-metal interface and in the aromatic matrix of biphenyl-substituted alkanethiol self-assembled monolayers)
IT 92-52-4, Biphenyl, uses
(odd-even effects at the S-metal interface and in the aromatic matrix of biphenyl-substituted alkanethiol self-assembled monolayers)
IT 298704-21-9 298704-23-1 298704-25-3
298704-27-5 317834-22-3 330442-96-1
(odd-even effects at the S-metal interface and in the aromatic matrix of biphenyl-substituted alkanethiol self-assembled monolayers)
IT 7440-22-4, Silver, properties 7440-57-5, Gold, properties
(odd-even effects at the S-metal interface and in the aromatic matrix of biphenyl-substituted alkanethiol self-assembled monolayers)
RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Anon	1998			Thin Films: Self-Ass	
Band, I	1979	23	443	At Data Nuc Data Tab	HCA
Buckley, A	1987	216	213	J Electroanal Chem	HCA
Camillone, N	1993	98	3503	Chem Phys	HCA
Camillone, N	1993	98	4234	J Chem Phys	HCA
Delamarche, E	1996	8	719	Adv Mater	HCA
Doniach, S	1970	3	285	J Phys C	HCA
Fenter, P	1993	70	2447	Phys Rev Lett	HCA
Fenter, P	1994	266	1216	Science	HCA
Fenter, P	1998	412/4	213	Surf Sci	HCA

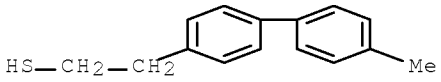
Geyer, W	1999	75	2401	Appl Phys Lett	HCA
Golzhauser, A	1995	334	235	Surf Sci	
Heister, K	2001	105	4058	J Phys Chem B	HCA
Heister, K	2001	17	8	Langmuir	HCA
Himmelhaus, M	1998	92	139	J El Spectrosc Relat	HCA
Ishida, T	1998	14	2092	Langmuir	HCA
Ishida, T	1999	20	6799	Langmuir	
Kohn, F	1998			Thesis Universitat H	
Laibinis, P	1991	113	7152	J Am Chem Soc	HCA
Leung, T	2000	458	34	Surf Sci	HCA
Moulder, J	1992			Handbook of X-ray Ph	
Nyholm, R	1986	246	267	Nucl Instrum Methods	
Poirier, G	1994	10	2853	Langmuir	HCA
Rieley, H	1999	15	8856	Langmuir	HCA
Rong, H	2001	17	1582	Langmuir	HCA
Sellers, H	1993	115	9389	J Am Chem Soc	HCA
Stohr, J	1992		123	NEXAFS spectroscopy	
Thome, J	1998	14	7435	Langmuir	HCA
Ulman, A	1991			An Introduction to U	
Ulman, A	1996	96	1533	Chem Rev	HCA
Weisshaar, D	1993	9	323	Langmuir	HCA
Whelan, C	1999	15	116	Langmuir	HCA
Whelan, C	1999	425	195	Surf Sci	HCA
Yeh, J	1985	32	1	At Data Nuc Data Tab	HCA
Zharnikov, M	2000	2	3359	Phys Chem Chem Phys	HCA

OS.CITING REF COUNT: 87 THERE ARE 87 CAPLUS RECORDS THAT CITE THIS RECORD (87 CITINGS)

L37 ANSWER 13 OF 14 HCA COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 134:91533 HCA Full-text
TITLE: A defect study of self-assembled monolayers by chemical etching
AUTHOR(S): Cyganik, P.; Felgenhauer, T.; Rong, H.-T.; Buck, M.; Postawa, Z.
CORPORATE SOURCE: Institute of Physics, Jagiellonian University, Krakow, 30-059, Pol.
SOURCE: Electron Technology (2000), 33(3), 337-343
CODEN: ETNTAT; ISSN: 0070-9816
PUBLISHER: Institute of Electron Technology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Self-assembled monolayers (SAMs) of 4-methyl-4'-mercaptoethyl-biphenyl (HS-CH2-CH2-C6H4-C6H4-CH3) and hexadecane thiol (HS-(CH2)15-CH3) adsorbed on Au(111)/mica were investigated by cyanide etching to identify defects in the monolayer. The etch pits formed around a defect were examined ex situ by STM. For both thiols removal of Au atoms begins in the vicinity of terrace edges and leads to the formation of triangular pits on the Au terraces. The defect densities of both thiols are comparable and the etch rate is slightly higher for the alkane thiol compared to the biphenyl thiol. This feature combined with a charge permeability orders of magnitude higher than for alkane thiols makes biphenyl-based thiols a promising material for modifying electrochem. properties of electrodes.

IT 317834-22-3
(surface defects of self-assembled thiol monolayers on gold studied by chemical etching)
RN 317834-22-3 HCA
CN [1,1'-Biphenyl]-4-ethanethiol, 4'-methyl- (CA INDEX NAME)



CC 66-3 (Surface Chemistry and Colloids)
ST surface defect thiol SAM gold etching
IT Surface structure
(of gold after chemical etching in presence of self-assembled thiol monolayers)
IT Etching kinetics
(of gold covered with self-assembled thiol monolayers)
IT Surface defects
(of self-assembled thiol monolayers on gold studied by chemical etching)
IT Etching
(surface defects of self-assembled thiol monolayers on gold studied by)
IT Self-assembled monolayers
(surface defects of self-assembled thiol monolayers on gold studied by chemical etching)
IT 7440-57-5, Gold, properties
(surface defects of self-assembled thiol monolayers on gold studied by chemical etching)
IT 2917-26-2, Hexadecane thiol 317834-22-3
(surface defects of self-assembled thiol monolayers on gold studied by chemical etching)
IT 57-12-5, Cyanide, uses
(surface defects of self-assembled thiol monolayers on gold studied by chemical etching with)
RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Alves, C	1992	114	1222	J Am Chem Soc	HCA
Bain, C	1989	111	321	J Am Chem Soc	HCA
Baski, A	1994	313	275	Surface Sci	HCA
Bhatia, R	1997	13	4038	Langmuir	HCA
Chang, S	1994	116	6792	J Am Chem Soc	HCA
Cyganik, P	1998	31	440	Electron Technol	HCA
Dhirani, A	1996	118	3319	J Am Chem Soc	HCA
Dishner, M	1998	16	3295	J Vac Sci Technol B	HCA
Dubois, L	1993	98	678	J Chem Phys	HCA
Edinger, K	1993	9	4	Langmuir	HCA
Elbel, N	1995	13	2119	J Vac Sci Technol B	HCA
Erdelen, C	1994	10	1246	Langmuir	HCA
Felgenhauer, T				in preparation	
Fenter, P	1994	266	1216	Science	HCA
Geyer, W	1999	75	2401	Appl Phys Lett	HCA
Hahner, G	1993	9	1955	Langmuir	
Kumar, A	1994	10	1498	Langmuir	HCA
Kumar, A	1994	263	60	Science	HCA
Laibinis, P	1992	114	9022	J Am Chem Soc	HCA
Lercel, M	1996	68	11	Appl Phys, Lett	
Liu, Z	1997	300	84	Thin Solid Films	HCA
Lopez, G	1993	115	10774	J Am Chem Soc	HCA
Mar, W	1994	10	188	Langmuir	HCA

McCarley, R	1992	96	7410	J Phys Chem	HCA
Pertsin, A	1997	106	7343	J Chem Phys	HCA
Pertsin, A	1994	10	3668	Langmuir	HCA
Poirier, G	1994	10	611	Langmuir	
Porter, M	1987	109	3559	J Am Chem Soc	HCA
Schonnenberg, C	1994	10	3383	Langmuir	
Sun, L	1993	9	1951	Langmuir	HCA
Ulman, A	1991			An Introduction to U	
Ulman, A	1996	96	1533	Chem Rev	HCA
Wei, T	1998	102	2935	J Phys Chem B	
Ye, S	1999	15	85	Langmuir	
Zhao, X	1996	12	3257	Langmuir	HCA

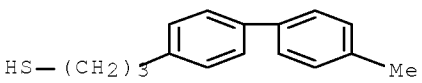
OS.CITING REF COUNT: 6 THERE ARE 6 CAPLUS RECORDS THAT CITE THIS RECORD (6 CITINGS)

L37 ANSWER 14 OF 14 HCA COPYRIGHT 2011 ACS on STN
ACCESSION NUMBER: 133:272105 HCA Full-text
TITLE: The effect of sulfur-metal bonding on the structure of self-assembled monolayers
AUTHOR(S): Zharnikov, M.; Frey, S.; Rong, H.; Yang, Y.-J.; Heister, K.; Buck, M.; Grunze, M.
CORPORATE SOURCE: Angewandt Phys. Chem., Universitat Heidelberg, Heidelberg, 69120, Germany
SOURCE: Physical Chemistry Chemical Physics (2000), 2(15), 3359-3362
CODEN: PPCPFQ; ISSN: 1463-9076
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English

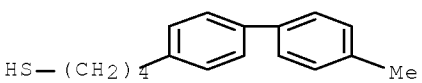
AB The equilibrium structure of alkanethiol monolayers self- assembled on metal substrates is determined by a delicate interplay of the intermol. chain-chain and chemisorptive substrate-head group interactions. To understand the role of the individual constituents of this interplay, we studied the structure of biphenyl and perfluoroalkyl terminated alkanethiol monolayers self- assembled on Au and Ag. The structural characteristics of the monolayers derived from NEXAFS, FTIRRAS and XPS measurements point to a decisive role of the directional substrate-head group interactions.

IT 298704-21-9 298704-23-1 298704-27-5
(effect of sulfur-metal bonding on the structure of self-assembled monolayers)

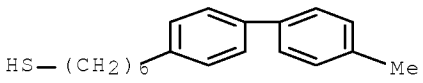
RN 298704-21-9 HCA
CN [1,1'-Biphenyl]-4-propanethiol, 4'-methyl- (CA INDEX NAME)



RN 298704-23-1 HCA
CN [1,1'-Biphenyl]-4-butanethiol, 4'-methyl- (CA INDEX NAME)



RN 298704-27-5 HCA
CN [1,1'-Biphenyl]-4-hexanethiol, 4'-methyl- (CA INDEX NAME)



CC 66-3 (Surface Chemistry and Colloids)
IT Bond formation
Self-assembled monolayers
(effect of sulfur-metal bonding on the structure of self-assembled monolayers)
IT Thiols (organic), processes
(effect of sulfur-metal bonding on the structure of self-assembled monolayers)
IT Electron hybridization
(of sulfur binding orbitals; effect of sulfur-metal bonding on the structure of self-assembled monolayers)
IT 7440-22-4, Silver, processes 7440-57-5, Gold, processes 215032-30-7 273221-88-8 298704-21-9 298704-23-1 298704-25-3 298704-27-5
(effect of sulfur-metal bonding on the structure of self-assembled monolayers)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Alves, C	1993	9	3507	Langmuir	HCA
Anon	1998	24		Thin films	
Bagus, P	1996	248	129	Chem Phys Lett	HCA
Castner, D	1993	9	537	Langmuir	HCA
Castner, D				to be published	
Debe, M	1984	55	3354	J Appl Phys	HCA
Fenter, P	1991	7	2013	Langmuir	HCA
Fenter, P	1993	70	2447	Phys Rev Lett	HCA
Fenter, P	1994	266	1216	Science	HCA
Frey, S				to be published in I	
Graupe, M	1998	93	107	J Fluorine Chem	
Hahner, G	1992	10	2758	J Vac Sci Technol A	
Hahner, G	1991	67	851	Phys Rev Lett	
Hahner, G	1992	69	694	Phys Rev Lett (errat	
Harris, A	1990	64	2086	Phys Rev Lett	HCA
Himmel, H	1998	120	12069	J Am Chem Soc	HCA
Laibinis, P	1991	113	7152	J Am Chem Soc	HCA
Lampert, A	1997			PhD Thesis, Universi	
Lenk, T	1994	10	4610	Langmuir	HCA
Liu, G	1994	101	4301	Chem Phys	HCA
Nuzzo, R	1990	112	558	J Am Chem Soc	HCA
Ohta, T	1990	41	150	Phys Scr	HCA
Outka, D	1988	88	4076	J Chem Phys	HCA
Pertsin, A	1997	106	7343	J Chem Phys	HCA
Pertsin, A	1994	10	3668	Langmuir	HCA
Piseri, L	1973	58	158	J Chem Phys	HCA
Porter, M	1987	109	3559	J Am Chem Soc	HCA
Rong, H				J Am Chem Soc, submi	
Sellers, H	1993	115	9389	J Am Chem Soc	HCA

Stohr, J	1992			NEXAFS spectroscopy	
Tamada, K	1998	327-3	150	Thin Solid Films	HCA
Taut, C	1996	12	3481	Langmuir	HCA
Thome, J	1998	14	7435	Langmuir	HCA
Tsao, M	1997	13	4317	Langmuir	HCA
Ulman, A	1991			An Introduction to U	
Ulman, A	1996	96	1533	Chem Rev	HCA
Ulman, A	1989	5	1147	Langmuir	HCA
Vaterlein, P	1998	108	3313	J Chem Phys	HCA
Walczak, M	1991	113	2370	J Am Chem Soc	HCA

OS.CITING REF COUNT: 88 THERE ARE 88 CAPLUS RECORDS THAT CITE THIS RECORD (88 CITINGS)